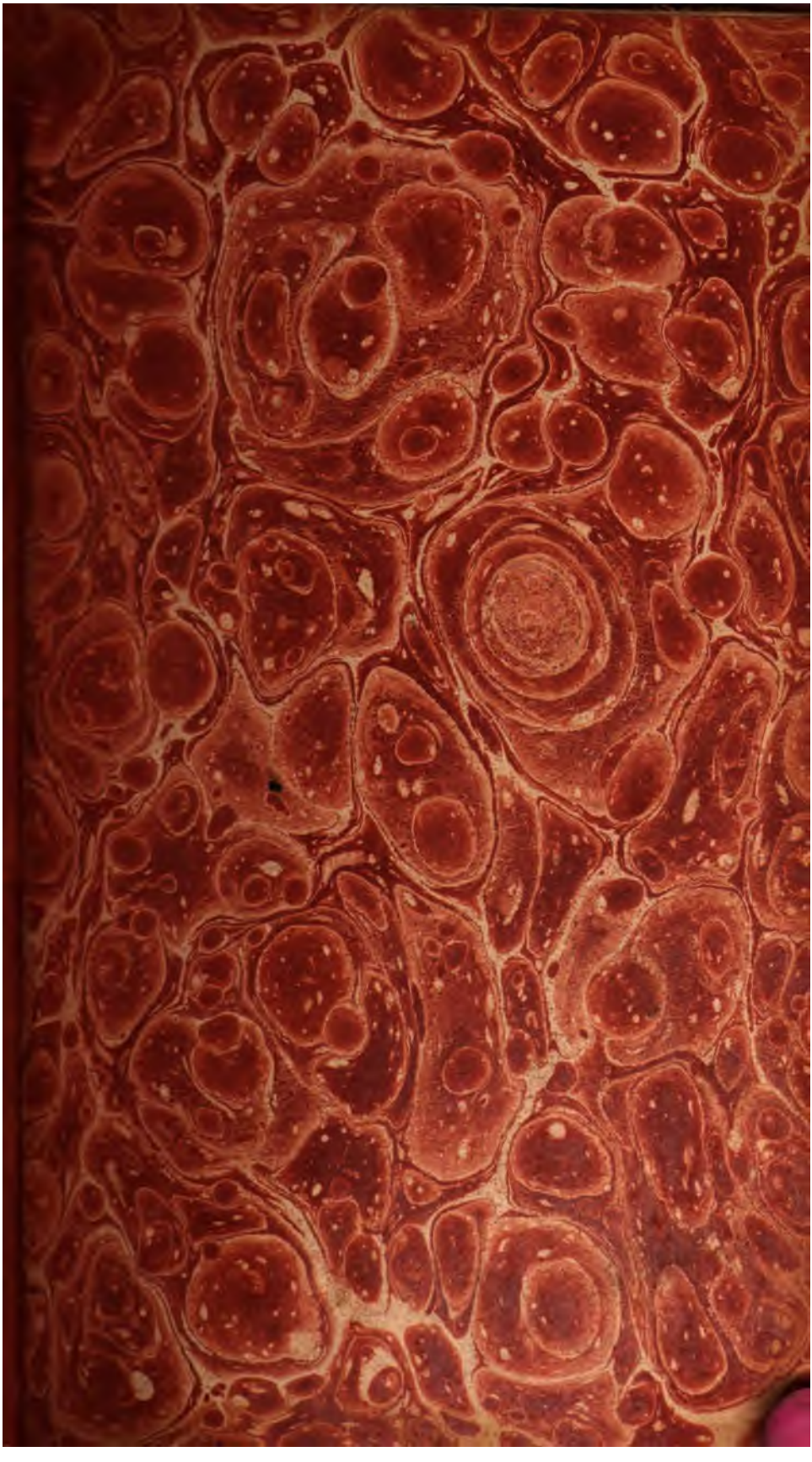

ENGLISH BOTANY;

OR,

COLOURED FIGURES

OF

BRITISH PLANTS,

WITH THEIR

ESSENTIAL CHARACTERS, SYNONYMS, AND PLACES OF GROWTH.

TO WHICH WILL BE ADDED,

OCCASIONAL REMARKS.

BY

JAMES EDWARD SMITH, M.D. F.R.S.

MEMBER OF THE IMP. ACAD. NATURÆ CURIOSORUM, THE ACADEMIES OF STOCKHOLM, UPSAL, TURIN, LISBON, LUND, BERLIN, PHILADELPHIA, AND THE NAT. HIST. SOCIETY OF PARIS;

PRESIDENT OF THE LINNEAN SOCIETY.

THE FIGURES BY

JAMES SOWERBY, F.L.S.

——"VIRESQUE ACQUIRIT EUNDO."——*Virg.*

VOL. XVIII.

LONDON:

PRINTED BY R. TAYLOR, BLACK-HORSE-COURT, FLEET-STREET;

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MDCCCIV.

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LEPRARIA flava.

Yellow Lepraria.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* in a powdery substance loosely clothing a thin crust.

SPEC. CHAR. Crust and fructification of an uniform bright yellow.

SYN. Lichen flavus. *Achar. Prod.* 6. *With. v.* 4. 3. *Relh.* 444. *Sibth.* 315. *Abbot.* 256.

Byssus candelaris. *Linn. Sp. Pl.* 1639. *Huds.* 608. *Hull.* 308. *Lightf.* 1005.

B. pulverulenta flava, lignis adnascens. *Dill. Musc.* 3. *t.* 1. *f.* 4. *Raii Syn.* 56.

Lepra candelaris. *Ehrh. Crypt.* 288.

Parmelia citrina δ. *Achar. Meth.* 180.

THIS occurs not unfrequently on the rugged bark of old trees, and is found at all seasons. It thrives in summer, and easily parts with its powder when dry.

It is not so thick as the preceding, but like that forms a spreading indeterminate crust, covered entirely with powder of the same bright golden yellow as itself. This colour is constant in the living plant, and permanent in dried specimens.

It so evidently belongs to the genus *Lepraria*, and is acknowledged so universally to produce no shields, that we cannot but wonder to find it ranged in Dr. Acharius's new work as a barren variety of his *Parmelia citrina*, which he thinks is not itself distinct from *P. candelaria*, the *Lichen candelarius* of Linnæus. We are of nothing more confident than that our *Lepraria flava* is distinct from *Lichen candelarius*.

Jany 1 1804 Published by Sol Sowerby London

✓

2.

LEPRARIA chlorina.

Bright-sulphur Lepraria.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* in a powdery substance loosely clothing a thin crust.

SPEC. CHAR. Bright sulphur-coloured. Crust fibrous. Fructification in small round clusters.

SYN. Lepraria chlorina. *Ach. Lichenogr. ined.*
Lichen chlorinus. *Ach. Prod.* 6.
Pulveraria chlorina. *Ach. Meth.* 1. *t.* 1. *f.* 1. *Westring Lich.* 1. *t.* 1.

THIS production, one of the most elegant and striking of its tribe, was discovered by Mr. Dickson, as he informs us, long ago in Scotland. Mr. Turner observed it in 1807, on rocks behind the inn at Avemore in Strathspey, and from that neighbourhood Mr. Borrer and Mr. Hooker sent our present specimens.

The vivid greenish-lemon hue is remarkable, and even more striking than *L. flava, t.* 1350, nor is it at all impaired by keeping. The crust or basis of the plant consists of minute entangled fibres, making a thick soft cushion-like mass, and bearing innumerable little crowded roundish powdery clusters.

The true nature of the fructification is so little known, that we rejoice to hear the learned Professor Acharius, whose specimens accord with ours, has reduced his genus *Pulveraria* to *Lepraria*, the latter being at best but obscure in its mode of propagation.

Dr. Westring, author of a most curious work on the dyeing properties of Swedish Lichens, with figures by the hand of Professor Acharius himself, has obtained a variety of very vivid tints from this *Lepraria*.

2056.

Engraved by [illegible] & Co. Bowerie, London

3.

LEPRARIA æruginosa.

Verdigrise Lepraria.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* in a powdery substance, loosely clothing a membranous or fibrous crust.

SPEC. CHAR. Light verdigrise green. Crust fibrous, obscurely jointed, forming soft spreading tufts. Fructification in small round clusters.

SYN. Byssus æruginosa. *Huds.* 605. *With. v.* 4. 143. *Hull.* 307.

B. lanuginosa æruginosa. *Dill. Musc.* 4. *t.* 1. *f.* 7.

Conferva pulveria. *Dillw. Syn. n.* 78. *t.* D.

I FIRST met with this plant on the pillars of the beautiful chapel at Roslin 7 miles from Edinburgh, in 1782. Mr. Dickson, who had never before seen it, determined the synonyms of Hudson and Dillenius. My young friend Mr. Leach has since gathered it there also. This spring I collected very fine specimens, one of which appears in the annexed plate, on the north wall of Wormleybury church, Herts, close to the tomb of Lady Amelia Hume. Mr. Young found the same in Glamorganshire, according to Mr. Dillwyn, who refers it to *Conferva.*

This species is most akin to *L. latebrarum, t.* 2147, with which it agrees in general structure, but differs in being of a much softer looser texture, by no means firm, rounded, or cushion-like; neither is it grey or stone-coloured, as our *t.* 2147 ought to have been represented after Mr. Sowerby's original drawing seen by me, but of a delicate verdigrise green. The fibres of the basis are by great attention found to be slightly jointed, but we conceive it ought not for that reason to be removed from the fibrous *Leprariæ,* with which it agrees in more peculiar characters.

Angas sc. published by J. Sowerby London.

4.

LEPRARIA latebrarum.

Grey Cavern Lepraria.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* in a powdery substance, loosely clothing a membranous or fibrous crust.

SPEC. CHAR. Grey. Crust fibrous, forming dense cushions. Fructification in small round clusters.

SYN. Lepraria latebrarum. *Achar. Prod.* 7.

Pulveraria latebrarum. *Achar. Meth.* 2. *Winch. v.* 2. 29.

Byssus cryptarum. *Huds.* 607. *With. v.* 4. 146. *Hull.* 308.

B. albida brevis setacea. *Dill. Musc.* 10. *t.* 1. *f.* 20; exclusive of the Linnæan synonym.

THIS I found, when a young botanist at Edinburgh in 1781, growing on a rock at the Hermitage at Blackford, as well as on several rocks in Rivelston wood. It always grows in such places as the rain cannot reach, and exactly accords with Acharius's name, description and specimens. The colour is a glaucous pale grey, and has remained entirely unchanged. The plant forms light convex soft cushions, easily separable from the rock, their central part being elevated by age, and in a manner vaulted underneath. The whole is a mass of fine fibres, much entangled, intermixed with powdery granulations, the powder rubbing off when touched by the finger, exactly as in the beautiful *L. chlorina, t.* 2038. The inner part is white.

Byssus cryptarum of Linnæus is widely different from this, though Dillenius confounded them.

2147

Moss and published by J. Sowerby London.

IV

5.

LEPRARIA alba.

White Lepraria.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* in a powdery substance loosely clothing a thin crust.

SPEC. CHAR. Crust and fructification of an uniform pure white.

SYN. Lepraria alba. *Achar. Meth.* 3.

Lichen albus. *Achar. Prod.* 7. *With. v.* 4. 2. *Relh.* 444. *Abbot.* 256.

L. lacteus. *Sibth.* 316.

Byssus lactea. *Linn. Sp. Pl.* 1639. *Huds.* 609. *Hull.* 308. *Lightf.* 1007.

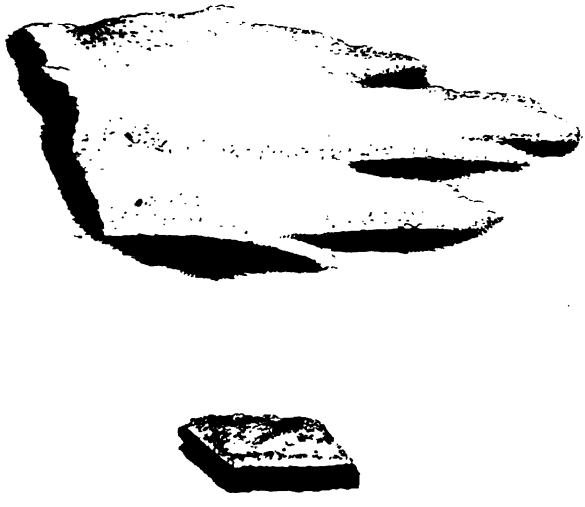
B. candidissima, calcis instar muscos vestiens. *Dill. Musc.* 2. *t.* 1. *f.* 2.

FOUND on the bark of old trees, or on Mosses, decayed Lichens, and other cryptogamous plants, in shady moist situations, more particularly in mountainous countries.

On small plants it forms irregular broken fragments, looking as if a brush of white-wash had been shaken over them; on bark it grows in a continued, but indeterminate and shapeless, crust, cracked when dry, clothed all over with a granulated or powdery substance. In general the colour of the whole is a pure opaque white; but at certain seasons, principally in summer, the powdery part becomes brownish or yellowish. We conceive this to be a state of temporary decay, after the seeds are dispersed, rather than the ripening of the seeds; for the plant is most vigorous, and most easily parts with its granulated particles, in the damps of winter.

The establishment of this genus seems indispensable. Botanists have sought in vain for shields in this and other species, to make them Lichens; and indeed they are evidently propagated by their powdery part. Whether that part consists of buds or seeds, is too nice a question for us to determine. Of the certainty and constancy of the species there is no doubt. The true *Byssi*, if that genus be to remain at all, are of a fibrous nature.

2360



Mr. [illegible] Published by J. & J. Sowerby, London.

6.

LEPRARIA lutescens.

Buff Lepraria.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* in a powdery substance loosely clothing a thin crust.

SPEC. CHAR. Crust leprous, rugged, cracked, buff-coloured. Fructifications globose, of the same colour.

SYN. Lepraria lutescens. *Achar. Meth.* 5.
Lepra lutescens. *Hoffm. Pl. Lich. v.* 1. 100. *t.* 23. *f.* 1, 2.
Lichen lutescens. *Achar. Prod.* 9.

FOUND on the stems of old trees, especially oaks, in unfrequented woods. Mr. Turner has observed it in Acle wood, Norfolk, and Mr. W. Borrer sent our specimens from Hurst Pierrepoint, Sussex. It occurs at all seasons, but is best seen in winter, or wet weather.

The whole plant is externally of an uniform buff or pale ochraceous yellow. Crust thick, white and chalky within, very unequal and rugged; its surface clothed with buff-coloured powder or minute grains.

It is now generally agreed that various appearances like the shields of a Lichen, which some eminent German botanists have noticed on this plant, have either been parasitical bodies, or some other deception. There can be no question of its agreeing in genus with *Lepraria alba, v.* 19. *t.* 1349 (numbered by mistake 1350).

Nov.r 1. 1806 Published by Jas. Sowerby London.

√

7.

LEPRARIA ochracea.

Ochrey Lepraria.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* in a powdery substance, loosely clothing a membranous or fibrous crust.

SPEC. CHAR. Crust not discernible. Fructification of an ochrey yellow, collected into thin scattered patches.

SYN. Lepraria ochracea. *Turn. & Borr. Lich. Brit. v.* 1. 8.

THE trunks of old trees at Hurst-Pierpoint and Poynings, Sussex, produced the specimens, for which we are indebted to Mr. W. Borrer. The same is said to be found about Yarmouth and Halesworth, generally on *Hypnum sericeum*; see *t.* 1445.

We have certainly often seen this production, and have thought it the early state of *Lichen candelarius*, *t.* 1794. That our work may not, however, be incomplete, as to any species described by authentic writers, we thankfully profit of the permission here allowed us, of quoting Messrs. Turner and Borrer's unpublished sheets. They describe this species as destitute of a frond or crust, which confirms our suspicion, that what they term *propagula*, and we above have called fructification, may be the incipient frond of some *Lichen*. These are scattered or clustered, in a most irregular manner, in the form of finely granulated masses of a pale, dull, ochraceous yellow, often greenish, and rather brighter when wet than dry. If, however, their shape is observed to be, for any time, permanent, the reality of the species, as a *Lepraria*, cannot be denied.

2408

May 1.1813 published by Jas. Sowerby London.

LEPRARIA botryoides.

Common Green Lepraria.

CRYPTOGAMIA Alga.

GEN. CHAR. *Seeds* in a powdery substance, loosely covering a membranous or fibrous crust.

SPEC. CHAR. Crustaceous, clustered, green, somewhat gelatinous, indeterminate, the granulations bead-like.

SYN. Lepraria botryoides. *Achar. Meth.* 6.
Licken botryoides. *Achar. Prod.* 10. *Hoffm. Enum.* 6. *t.* 1. *f.* 2. *With. v.* 4. 3. *Relh.* 445. *Sibth.* 316.
Byssus botryoides. *Linn. Sp. Pl.* 1639. *Huds.* 609. *Hull.* 308. *Lightf.* 1006. *Fl. Dan. t.* 899. *f.* 3.
B. botryoides saturatè virens. *Dill. in Raii Syn.* 56. *Musc.* 5. *t.* 1. *f.* 5.

THE barks of trees, old posts and rails, garden-pots, &c., are green all the year round with this vegetable, which stains the fingers on the slightest touch, and is in its greatest perfection during the damp months of winter.

The colour is a beautiful bright unchangeable green, only turning yellowish or brownish in decay. The substance an indeterminate, powdery, somewhat gelatinous, crust, on a very slight membranous base. When the green globular particles are for the most part rubbed or scraped away, the remainder, cobering irregularly, in a bead-like manner, are found attached to this membrane. This is all we can discern of its structure, and accords with Hoffmann's representations. That author, copying Lightfoot's typographical error, calls our plant *Green* Cluster Byssus, but this is one of the most innocent mistakes that could happen to an implicit transcriber. We wish the science were encumbered with no others.

Published by J. Pinnock London

V

LEPRARIA virescens.

Dull-green Lepraria.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* in a powdery substance, loosely clothing a membranous or fibrous crust.

SPEC. CHAR. Crustaceous, granulated, continued, somewhat gelatinous; greyish dull green when dry; bright green when wet.

FOUND on the trunks of trees, especially elms, in Sussex, by Mr. W. Borrer, who esteems it a nondescript *Lepraria*. Certainly as no shields have been discovered, we are not warranted to place it elsewhere; nor do we know any thing of the *Lichen* kind, except perhaps some of the *Collemata*, whose crust imbibes moisture so copiously and instantaneously, or becomes so gelatinous, as this.

The crust is perfectly uninterrupted, though not distinctly bordered, at first thin, then considerably thickened, of a dull greenish grey or dark lead-colour when dry, but, when moistened, changing to a deep rich green, in which state the granulations that cover the surface become more tumid and conspicuous. They adhere to a thick uniform base, and are not concatenated like the granules of *L. botryoides*, *t.* 2148, neither do we discern any thing like powdery seeds. We cannot help suspecting that some future discovery of shields may prove this a gelatinous Lichen, or *Collema*; for we know no other *Lepraria* whose colour varies, in the least degree, with moisture.

May 1 1820 published by J. Murray London.

V

LEPRARIA Iolithus.

Violet-scented Lepraria.

CRYPTOGAMIA Algæ.

Gen. Char. *Seeds* in a powdery substance, loosely clothing a membranous or fibrous crust.

Spec. Char. Crust filmy, greyish. Fructification red, extremely minute, in a thin, even, powdery layer.

Syn. Lepraria Iolithus. *Ach. Meth.* 8. *Turn. & Borr. Lich. Brit. v* 1. 19.

L. rubens. *Ach. Meth.* 6.

Byssus Iolithus. *Linn. Sp. Pl.* 1638. *Lapland Tour, v.* 1. 26. *Huds.* 608. *Hull.* 308.

Lichen Iolithus. *With. v.* 4. 3. *Ach. Prod.* 11.

FOR this specimen, produced on the bark of a tree, we are obliged to Mr. Turner. We have received several from Holywell in Flintshire, as well as from Tunbridge, growing on stones in damp places, of what is presumed to be the same, though of a less powdery and more crustaceous appearance. Both are of the same dull crimson hue, and when moist diffuse a fragrant smell, like violets, or more resembling orris root. This scent is equally strong after the specimens have been long preserved, whenever they are wetted. We have picked up on the shore at Leith quartz pebbles encrusted with the same red substance, but exhaling rather more of a sea-weed odour, still partaking of the orris. How far these are distinct, botanists have not well determined. The present plant has been confounded, as Mr. Turner observes, with our *Conferva lichenicola, t.* 1609, which is abundantly distinguishable by its fibrous jointed texture.

It is no wonder that stones apparently stained with blood, as the above seem to be, should have been made subservient to many a legend in superstitious times. Those at Holywell are supposed to have been sprinkled with the blood of St. Winifred.

Pl. 100 a published by J. C. Sowerby, London.

LEPRARIA nigra

Black Lepraria.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* in a powdery substan
clothing a membranous or fibrous crus

SPEC. CHAR. Crust filmy, greyish. Fru
black, extremely minute, in a thin, e
dery layer.

SYN. Lepraria nigra. *Turn. & Borr. Lich. B*

ABOUT this there can be no uncertainty. It is c
able that so common a production should not befo
its nature investigated or defined. The squared t
gate-posts, in particular, are generally black, a
inky, with this *Lepraria*. Mr. Borrer has observ
a grey filmy basis or crust, which is to be detecte
liest stage only, but serves to prove its nature. F
in extremely minute round black grains, which st
ger, though less readily than some of the *Spilom*
ver the whole surface of the crust in a thin conti
We readily assent to the supposition of the write
chenographia Britannica, that many botanists ma
this for *Byssus antiquitatis*, because we have, f
without much consideration, supposed it such
knowing, any more than our fellow labourers in
obscurity, what that *Byssus* properly is. In sever
the ideas of the first writers on these plants have be
to allow us to determine what they meant, withou
ance of a specimen.

2409

Map, as published by Jos. Lowry, London

SPILOMA melanopum.

Broad Black Spiloma.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Receptacles* shapeless, without a border, hairy and powdery, in an uninterrupted crust.

SPEC. CHAR. Crust very thin, greyish. Receptacles flat, dilated, irregular, somewhat confluent, black.

SYN. Spiloma melanopum. *Sm. Fl. Brit. v. 4. ined.*
S. melanopa. *Ach. Meth.* 10. *t.* 1. *f.* 3.
Lichen rugosus. *Hoffm. Enum.* 10. *t.* 2. *f.* 5 ?

ON the smooth barks of trees; not uncommon on the apple-tree, according to Mr. W. Borrer, where it assumes the appearance of sooty spots. The crust is scarcely discernible, except in a young state, when it is greyish or ash-coloured and very thin, besprinkled with innumerable, little, round, powdery, black specks, or masses of seeds. These soon run together into broader irregular patches, as drawn by Acharius. We find a mixture of minute green granulations, which may either be adventitious portions of a *Lepraria*, or possibly the infant fructification of this *Spiloma*. There are also to be seen, in our specimen, a number of simple, curved, jointed threads, intermixed with the fructification; perhaps some nondescript *Conferva*. We do not wish to conceal our doubts nor our ignorance, but merely exhibit and describe what we have seen, for others to decide upon.—Hoffmann's *Lichen rugosus* agrees so nearly with this plant, that we see scarcely any room to doubt their being one and the same.

Date [illegible] published by [illegible]

V

13.

SPILOMA microclonium.

Fine-branched Spiloma.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Receptacles* shapeless, without a border, hairy and powdery, in an uninterrupted crust.

SPEC. CHAR. Crust very thin, leprous, hoary, with a brown edge. Receptacles minute, indeterminate, finely branched, somewhat confluent, brownish-black.

SYN. Spiloma microclonium. *Sm. Fl. Brit. v. 4. ined.*
S. microclona. *Ach. Meth. Suppl. 5.*

DISCOVERED by Mr. Sowerby, many years ago, on the rugged trunks of aged oaks in Windsor forest. Mr. W. Borrer finds it in Sussex.

The white or hoary thin leprous crust overruns the inequalities of the bark, and is terminated by a remarkable brown undulated border. The fructification looks as if snuff, or wood soot, had been sprinkled over the crust, or swept into the clefts of the bark, but when highly magnified, it seems composed of innumerable minute ramifications, that discharge a dark powder when arrived at maturity.

2150.

Maw now published by Jos. Bowerbank London.

14.

SPILOMA microscopicum.

Microscopic Spiloma.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Receptacles* shapeless, without a border, powdery, in an uninterrupted crust.

SPEC. CHAR. Crust spreading widely, very thin, membranous, greyish. Receptacles dot-like, very minute, black, lead-coloured when dry.

SYN. Spiloma microscopicum. *Turner and Borrer Lich. Brit. v.* 1. 30.

FOR this new *Spiloma* we are indebted to Mr. W. Borrer, who, as well as Mr. Turner, has most liberally allowed us to quote their unpublished *Lichenographia Britannica* as above.

This plant, "the most inconspicuous perhaps," as they observe, "of all the vegetables hitherto discovered," is very common on boarded buildings, and all timber exposed to the weather, to which it seems to give the blueish tinge after a while so universally observable. The crust is so extremely thin, that it seems merely to bleach the fibres of the wood, over which it spreads widely, exactly as the crust of *Lichen tartareus*, and others like it, over-run twigs of heath and shoots of mosses, on an infinitely larger scale. The dots of fructification are so excessively minute, as not to be discernible without a powerful microscope, yet they stain the fingers with their fine black powder. When dry they turn blueish, or grey. There are none of the jointed fibres, found in *S. melanopum*, *t.* 2358.

2396

Mar: 1.1819 published by J. & F. Crosby London.

15.

SPILOMA murale.

Wall Spiloma.

CRYPTOGAMIA Algæ.

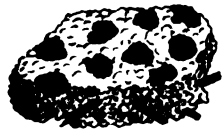
GEN. CHAR. *Receptacles* shapeless, without a border, powdery, in an uninterrupted crust.

SPEC. CHAR. Crust obsolete, or white. Receptacles very minute, black, confluent, without bristles.

SYN. Spiloma murale. *Turn. and Borr. Lich. Brit. v.* 1. 31.

OBSERVED by Mr. W. Borrer, who sent it to us, upon the plastered walls of cottages in Sussex, and by Mr. Turner on Burgh church, Suffolk. No doubt it may be found almost any where, by those who, with microscopic eyes, will take the pains to scrutinize any dirty mortar. But though as common perhaps, as it is to common observers indistinct and trifling, it holds a place in the chain of vegetable being, and the link it forms is accurately determined, since the genus to which this little species belongs is now clearly understood.

The crust is so thin, and so like the mortar in whiteness, that if it exists, as we presume must be the case at some period or other, it is not discernible at an advanced stage of the fructification. The receptacles form very minute black irregular dots, with a greyish tinge, like a stain upon the mortar, and consist of globular grains, without any hairs or bristles intermixed. We therefore, taught by our learned friends above cited, exclude the latter circumstance from our generic character.



Pl. 1 was published by J. & C. Rivington, London.

16.

SPILOMA dispersum.

Scattered Greenish Spiloma.

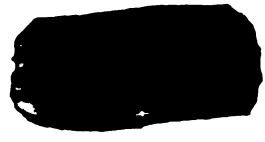
CRYPTOGAMIA Algæ.

GEN. CHAR. *Receptacles* shapeless, without a border, powdery, in an uninterrupted crust.

SPEC. CHAR. Crust filmy, very thin, greenish grey. Receptacles mostly dispersed, hemispherical, sooty; internally yellowish green.

SYN. Spiloma dispersum. *Turn. and Borr. Lich. Brit. v.* 1. 32.

NOT unfrequent on old rails. It is a very distinct and unequivocal species. The crust looks only like a greenish or olive stain. The receptacles are more or less widely scattered, rarely confluent, smaller than poppy-seed, hemispherical, rough, of a sooty or brownish black; internally their substance appears solid, and of a light yellowish, or olive, green. The latter part commonly becomes readily obvious, as the outside is easily rubbed off; in which state each receptacle looks like a little black ring round a greenish spot, and might hastily be mistaken for the shield of a Lichen.



Apl. 1. 1831 published by J. & L. Lowry, London.

17.

SPILOMA decolorans.

Staining Spiloma.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Receptacles* shapeless, without a border, powdery, in an uninterrupted crust.

SPEC. CHAR. Crust spreading widely, very thin, for the most part membranous, greyish white; yellowish green when rubbed. Receptacles minute, flat, confluent, purplish grey.

SYN. Spiloma decolorans. *Turn. and Borr. Lich. Brit. v.* 1. 39.

COMMUNICATED upon the rugged bark of an old oak, by Mr. W. Borrer. It is said to be common in that situation, as well as on boarded buildings, and on pales.

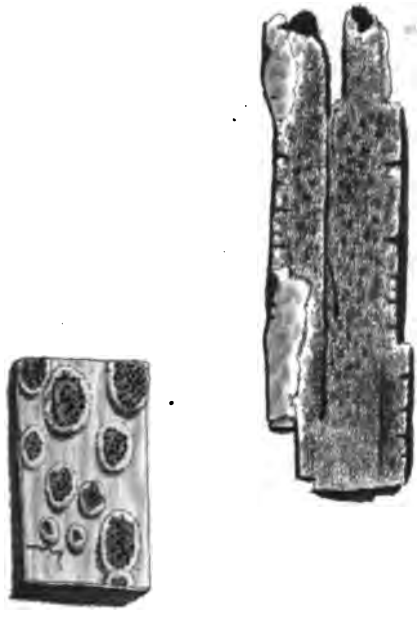
The crust is very thin, widely extended without interruption, even, rarely rugged or cracked, membranous, scarcely at all tartareous; externally of a dirty white, or grey; green within; which latter hue, with a tinge of yellow, it permanently assumes on being rubbed with any hard body. The fructification when young appears in the form of irregular, minute, whitish, flat, powdery warts, which soon become confluent, covering the whole plant, and giving it a faint purplish hue as they advance in age.

Pl. 102 Published by J. & T. Bennett, London.

✓

2472

Pl. 2472 published by J. & E. Sowerby, London.



Fossil wood, published by J. Sowerby, London.

2070.

Lith. carefully published by Jno. Kearsley Lincoln

SPILOMA variolosum.

Pustulous Spiloma.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Receptacles* shapeless, without a border, hairy and powdery, in an uninterrupted crust.

SPEC. CHAR. Crust tartareous, rugged, greyish white, cracked. Receptacles convex, rounded, very black; their centres often deciduous.

FOR this nondescript species we are obliged to Mr. Turner, who finds it on old trees in many places, more especially at Coltishall, Norfolk.

The crust is white, more or less clouded with grey, and differs from the last in being of a much thicker and tartareous texture, rugged and rough in the surface; like that somewhat cracked or tessellated, and of an indeterminate figure. Receptacles numerous, convex, intensely black, of a rounded but irregular shape, their middle part often breaking off unequally, and exposing to view the white crust beneath, which is elevated, forming a sort of core to the receptacle, as in *Lichen sanguinarius, t.* 155, and many others.

2077

1809 published by Jas. Sowerby London.

SPILOMA versicolor.

Variegated Spiloma.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Receptacles* shapeless, without a border, hairy and powdery, in an uninterrupted crust.

SPEC. CHAR. Crust thin, leprous, cracked, greyish, variegated with white or yellow. Receptacles depressed, flattish, rounded, sometimes confluent, very black.

SYN. Arthonia versicolor. *Ach. in Schrad. New Journ. vol.* 1. *fasc.* 3. 9. *t.* 4. *f.* 9.

GATHERED on the rugged bark of old trees in Norfolk and Suffolk by Mr. D. Turner, who sent it to Sweden for the determination of Professor Acharius. That learned botanist, being just then intent on establishing his new genus *Arthonia*, referred this and some nearly allied species to it, which we cannot but think more properly belong to *Spiloma*, on account of their rough, hairy and powdery receptacles; whereas those of *Arthonia* are firm, smooth and even, like the shields of a *Lichen*, with which also they agree in their cellular internal structure.

The crust of the present species is uniform, not very distinctly limited, of a thin, even, finely leprous substance, variously cracked; white within; externally smooth, variegated with white and a pale smoky grey; occasionally with a yellow or greenish tinge. The numerous receptacles, intensely black both within and without, are scattered over the crust, of various sizes, and of a rounded figure, but often running together into oblong spots. They are sunk in the crust, and nearly flat.

2078.

Drawing published by J. Sowerby London.

23.

SPILOMA tuberculosa.

Warty Spiloma.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Receptacles* shapeless, without a border, powdery, in an uninterrupted crust.

SPEC. CHAR. Crust calcareous, greyish-white. Receptacles scattered, somewhat confluent, unequal, elevated, granulated, black.

DISCOVERED by Mr. William Robertson of Newcastle, on sandstone rocks in that neighbourhood, as well as in various parts of Northumberland and Durham, where it is far from rare. "Mr. Turner has determined it to be certainly a *Spiloma*, and quite new." We without hesitation accede to this determination.

The crust is uninterrupted, running closely over the stone, but of a calcareous nature, greyish-white externally, but internally green when cut or rubbed, as in many Lichens. Receptacles sessile, not immersed, copiously scattered over the surface, various in size, often approximated or confluent, consisting of black tumid granulations, intermixed with some appearance of a grey powder. When cut vertically they are internally green like the crust.

2550

[illegible] Lambert

SPILOMA tumidulum.

Scarlet Spiloma.

CRYPTOGAMIA *Algæ.*

GEN. CHAR. *Receptacles* shapeless, without a border, hairy and powdery, in an uninterrupted crust.

SPEC. CHAR. Crust thin, continued, whitish, smooth, rather polished. Receptacles minute, convex, red.

SYN. Spiloma? tumidula. *Ach. Meth.* 11. *t.* 1. *f.* 5.
Sphæria gregaria. *Wieg. Obs.* 43. *t.* 2. *f.* 10. *Dicks. Crypt. fasc.* 1. 22. *With. v.* 4. 391. *Hull.* 424. *Relh.* 541. *Sibth.* 404. *Abbot.* 933. *Sowerb. Fung. t.* 375. *f.* 5.
Arthonia tumidula. *Ach. in Schrad. N. Journ. v.* 1. *fasc.* 3. 11.

BY no means uncommon on the smooth barks of trees. The crust is extremely thin, continued, not very distinctly rounded or bordered, even, smooth, whitish, somewhat silvery and polished, scarcely cracked or scaly. Receptacles numerous in the form of scattered irregular warts, a little prominent, their external layer brown, producing innumerable scarlet seeds, which are seemingly entangled in minute fibres of their own colour.

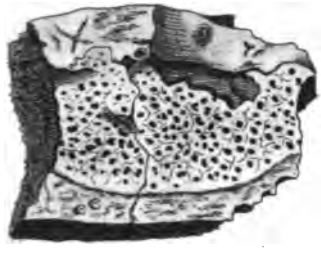
Botanists have differed concerning the natural order of this plant, and even Acharius seems not to be very decided about it, neither was he aware of its synonyms, nor of its being so common a production. We trust we are right in the above references and characters, and that there is no doubt of its generic affinity to our *t.* 2077 and 2078.

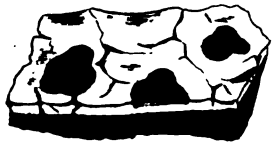
2151

[illegible]

V

2079.





Mawson published by J. Sowerby London

V

June 1st 1797 Published by Jas Sowerby London.

✓

LICHEN fagineus.

Bitter Powdery-shielded Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

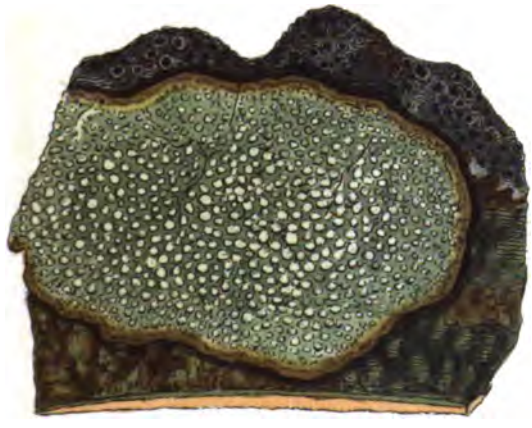
SPEC. CHAR. Crust rugged, bordered, greyish. Tubercles prominent, hemisphærical, mealy, very white.

SYN. Lichen fagineus. *Linn. Sp. Pl.* 1608. *Ach. Prod.* 27. *Huds.* 526. *With. v.* 4. 4. *Hull.* 284. *Relh.* 446. *Sibth.* 318. *Abbot.* 257. *Lightf.* 807. *Hoffm. Enum.* 18. *t.* 2. *f.* 4.
Variolaria faginea. *Ach. Meth.* 12.

A VERY common Lichen on the trunks of Beech, Sycamore, Oak, &c., about which no doubt nor difficulty has been supposed to exist; yet we cannot with certainty fix upon any synonym of Dillenius, and Professor Acharius has lately distinguished many species nearly allied to it, and all together constituting his *Variolaria*, a genus characterized by its mealy tubercles, (contrary indeed to our definition of *Lichen*), which probably will hereafter be firmly established.

The crust is circular, grey or greenish when young, rugged, polished, with a thin, smooth, elegant border, coloured with concentric shades of brown. Numerous prominent tubercles are scattered over the central part, which are very white, powdery and somewhat convex in their disks, with a clumsy imperfect kind of border. By age both crust and tubercles become of the same dirty white.

Mr. W. Borrer has helped us to a sure criterion of this species, which is its very bitter taste, not perceptible immediately, but, when perceived, very strong, disagreeable, and permanent on the palate for many hours, like that most abominable of all flavours the root of *Cyclamen europæum*.



Mar 1180. Published by Ja. Sowerby London.

28.

LICHEN fagineus.

Bitter Powdery-shielded Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust rugged, bordered, greyish. Tubercles prominent, hemisphærical, mealy, very white.

SYN. Lichen fagineus. *Linn. Sp. Pl.* 1608. *Ach. Prod.* 27. *Huds.* 526. *With. v.* 4. 4. *Hull.* 284. *Relh.* 446. *Sibth.* 318. *Abbot.* 257. *Lightf.* 807. *Hoffm. Enum.* 18. *t.* 2. *f.* 4.

Variolaria faginea. *Ach. Meth.* 12.

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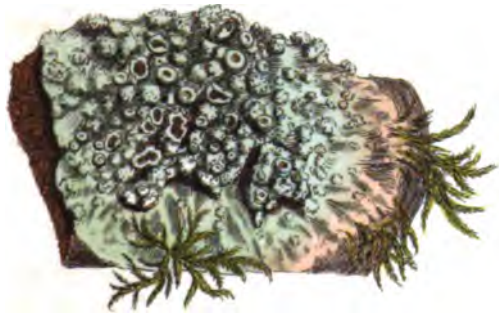
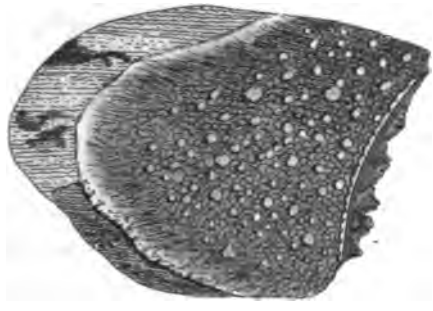
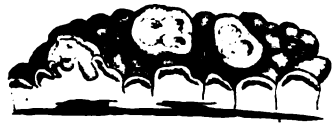
2008



Mar 1 1809 Published by Jas Sowerby London

2061





Pub. 1809 published by Jas Sowerby London

LICHEN velatus.
Veiled Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust limited, tartareous, thin, rugged, greyish, with a pale edge. Shields small, crowded; the disk yellowish, veiled with a white membrane; border thick, even, of the substance of the crust.

SYN. Parmelia velata. *Turn. Tr. of L. Soc. v.* 9. 143. *t.* 12. *f.* 1.

COMMUNICATED by Mr. W. Borrer, along with the preceding, from Sussex, where it grows, but rarely, upon ash trees.

It has the crust and general habit of our *L. multipunctus*, *t.* 2061, and surely proves that there can be no generic distinction, natural nor even artificial, between the two species. The crust in the present is a little greener; usually perhaps more uneven. The shields are sessile, numerous, small, with a thick, but not much elevated, smooth border, originating from the crust; their disk is flat, of a yellowish or pale salmon colour, but entirely concealed by a peculiar white membranous veil which is drawn across it from the border, and which seems sufficiently to distinguish this species from several others to which it is otherwise very nearly allied. This veil, to be understood, requires examination in a recent or moist state.

2062

Engraved, published by J. Sowerby London.

V

VARIOLARIA griseo-virens.

Greyish-green Variolaria.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Receptacles* cup-shaped, with a torn border from the crust, powdery, with a fertile disk beneath.

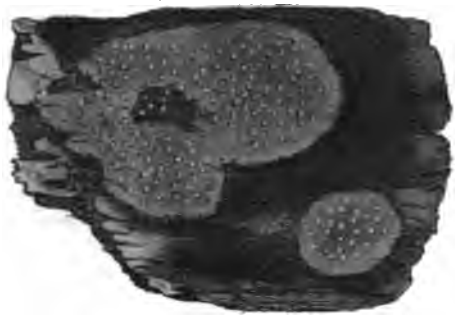
SPEC. CHAR. Crust elliptical, thin, slightly tartareous, rugged, grey, scarcely limited. Receptacles roundish, with a narrow border. Powder greenish.

SYN. Variolaria griseo-virens. *Turn. and Borr. Lich. Brit. v.* 1. 54.

ON the smooth cuticle of the bark of birch and cherry trees, given us by Mr. W. Borrer, from Stratton-strawless heath, Norfolk. The grey brownish crust looks like a dirty stain, or mass of decayed *Lepraria;* but on examination proves to be of a continued, rugged, though thin substance, and composes oblong transverse patches, an inch or two in length, and half an inch in breadth. The colour is the same, whether the plant be moist or dry. The little pale-green fructification, either scattered or crowded, readily discovers this species when once known. Each receptacle is roundish, with a narrow border, mostly concealed by the protruding powder, which turns greener or yellowish with moisture.

We can no longer decline adopting this genus, which our friends above cited have well illustrated, and to which they refer our *Spiloma Vitiligo,* t. 2075, of whose "*margo spurius*" we could not but be aware, but we thought there were hairs intermixed with its powder. The propriety of establishing *Variolaria* is hinted in v. 24. 1713. though the nature of the powder it bears is still a mystery. See t. 1713, 1714, 2008, 2061, 2401, for others of this genus.

2400



Published by J. & C. Crosby London

VARIOLARIA griseo-virens.

Greyish-green Variolaria.

CRYPTOGAMIA Algæ.

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SPEC. CHAR. Crust elliptical, thin, slightly tartareous, rugged, grey, scarcely limited. Receptacles roundish, with a narrow border. Powder greenish.

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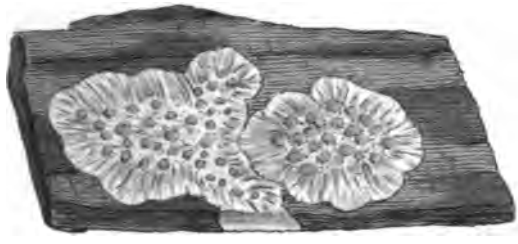
2401.



Published by J. Tourtely London

VARIOLARIA lactea.

Milky-white Variolaria.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Receptacles* cup-shaped, with a torn border from the crust, powdery, with a fertile disk beneath.

SPEC. CHAR. Crust orbicular, tartareous, thick, white, cracked; thin, polished, zoned and flesh-coloured in the circumference. Receptacles orbicular, very white, with an elevated margin when young.

SYN. Variolaria lactea. *Pers. in Ust. Ann. fasc.* 7. 24. *Ach. Meth.* 14. *t.* 1. *f.* 6. *Turn. & Borr. Lich. Brit. v.* 1. 69.

Lichen lacteus. *Linn. Mant.* 132. *Huds.* 526. *With. v.* 4. 5. *Hull.* 285. *Wulf. in Jacq. Coll. v.* 3. 107. *t.* 4. *Westr. fasc.* 1. 25. *t.* 3?

THE Rev. Mr. Harriman sent us beautiful specimens of this, on whinstone, from the north. Its crust spreads widely and circularly, without interruption, being tartareous, cream-coloured, finely granulated, tuberculated, cracked and opaque over the greater part of its surface. The marginal region, if we may so speak, is much thinner, polished almost like satin, marked with numerous concentric lines or plaits, and tinged at the edge with a delicate flesh-colour. This part is better described by Wulfen than any other writer. Acharius seems not well to have known it. The fructification when young is small, not unlike the shields of a *Lichen*, having a thickish elevated border, though only an uneven disk. The latter in process of time becomes very white and powdery. The internal disk Mr. Turner says is pale brown, but not easily discoverable. Notwithstanding the doubts of Acharius reported in the *Lich. Brit.* we cannot have any scruples as to Wulfen's synonym.—Dr. Westring's plate is much less like our plant; indeed it seems scarcely intended for it, though drawn by Acharius, from whom we have a correct specimen.

2410

May 1. 1832 published by J. & L. Lowry, London.

35.

VARIOLARIA dealbata.

White-wash Variolaria.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Receptacles* cup-shaped, with a torn border from the crust, powdery, with a fertile disk beneath.

SPEC. CHAR. Crust tartareous, thickish, greyish white, cracked, tumid, papillary and rugged; obscurely zoned at the circumference. Receptacles orbicular, prominent, white, with an aggregate internal disk.

SYN. Variolaria dealbata. *Decand. Franc. v.* 2. 525?
V. corallina. *Ach. Lich. Univ.* 319. *t.* 5. *f.* 6.
Lichen dealbatus. *Ach. Prodr.* 29.
Isidium corallinum, a supposed variety. *Ach. Meth.* 138. *t.* 3. *f.* 7; bad.
I. paradoxum. *Turn. & Borr. Lich. Brit. v.* 1. 97.

WE are obliged to Mr. Turner for this very complete specimen; but we have received others from various British friends, as well as from Dr. Acharius. The plant is not rare on hard rocks, in mountainous countries.

It differs from *V. lactea, t.* 2410, in having a very narrow, imperfectly zoned, border, but especially in the crust bearing scattered, cylindrical, papillary processes, often two together. The receptacles, when young, are small, concave, powdery, white cups; but when arrived at maturity, which happens to a few of them only, they become raised and convex, as large as hemp-seed, their surface still white and powdery, but finally displaying several little, concave, brownish or flesh-coloured, separate disks.

The learned authors of the *Lichenographia Britannica*, from whom we have taken our two first synonyms, consider this plant as an *Isidium*, on account of the *papillæ*, not without a most candid expression of their doubts. We dissent from them with much hesitation; but having, in no species, been perfectly satisfied of the nature of those *papillæ*, we are now led the more to doubt their being the fruit, and we rather rely on the receptacles, obviously agreeing with *Variolaria*.

2519.

Mar. 1813 published by J. & E. Sowerby London

May 1, 1817 published by Jos. Sowerby London

37.

LICHEN discoideus.

Insipid Powdery-shielded Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

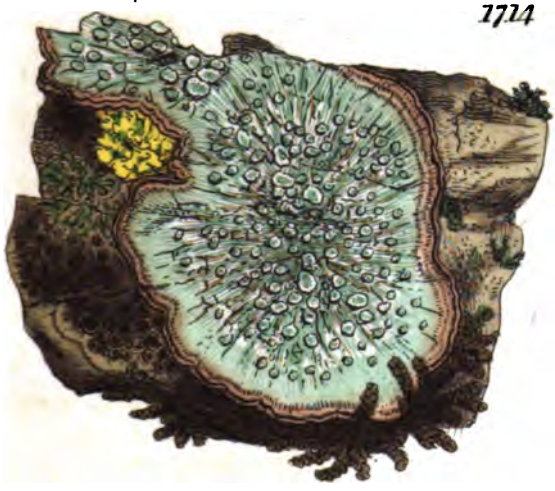
SPEC. CHAR. Crust rugged, bordered, greyish. Tubercles mealy, white, flattish: at length concave, with a dilated, torn border.

SYN. Lichen discoideus. *Ach. Prod.* 28.
L. fagineus. *Hoffm. Enum. t.* 7. *f.* 5.
L. albescens. *Huds.* 529.
L. carpineus. *Lightf.* 807.
Lichenoides candidum et farinaceum, scutellis ferè planis. *Dill. Musc.* 131. *t.* 18. *f.* 11.
Variolaria discoidea. *Ach. Meth.* 14.

THIS is probably as common as *L. fagineus*, with which it has been confounded. The synonym of Dillenius, generally applied to *fagineus* before Professor Acharius wrote, surely rather belongs to this, and we think we are right also in quoting Lightfoot, though the *carpineus* of Linnæus is a very different thing.

The present specimen was sent us from Yarmouth by Mr. W. Borrer, who observes that the bitter flavour of *L. fagineus* is not found in this species. Acharius describes it as most white when young, but his own specimen, though old, is as white as possible. The chief characteristic of *L. discoideus* seems to be the little elevation of the tubercles, which, after their powdery contents are discharged, become quite concave, to which may be added their dilated and expanded margin. On the trunks of old trees, particularly in wet weather, this Lichen is very conspicuous for its whiteness.

1714



Mar: 1.1807. Published by Jas. Sowerby London.

2345.

Published by Jos. Lowry, London

V

Sowerby del. Published by Jas Sowerby London.

40.

OPEGRAPHA nimbosa.

Clouded Opegrapha.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* in black, linear, sessile, simple or branched, bordered *clefts*, in an uninterrupted crust.

SPEC. CHAR. Crust leprous, white, shining, rugged, cracked. Clefts simple, minute, rounded, flattened, crowded.

SYN. Opegrapha nimbosa. *Ach. Meth.* 18. *t.* 1. *f.* 8.

GATHERED on the barks of large trees at Coltishall, Norfolk, by Mr. D. Turner, who judges it to be what Acharius intends under the above appellation; nor do we see any reason for doubt, though, for want of an original specimen, we cannot be absolutely certain.

This ranks among the smaller species of its genus. The crust is, as Acharius says, very white, spreading indeterminately, thin, in some degree polished, rugged, at length cracked and very uneven. Clefts but little projecting, numerous, roundish or oblong, curved, obtuse, with a very thin black edge, and a dilated hoary disk. The figure in Acharius represents the latter black, as indeed is every part at an early stage of growth, when the clefts are short and elliptical, almost round.—The reader will observe a considerable degree of affinity betwixt this and our *Lichen lynceus*, *t.* 809, except that the latter is much larger in all its parts.

2346.

Fig. 1. — published by Jos. Kennedy London.

41.

OPEGRAPHA microscopica.

Microscopic Opegrapha.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* in black, linear, sessile, simple or branched, bordered *clefts*, in an uninterrupted crust.

SPEC. CHAR. Crust determined, very thin, smooth, shining, pale copper-coloured. Clefts scattered, immersed, somewhat parallel, mostly simple, oblong, with a very narrow black edge.

SYN. Graphis microscopica. *Ehrh. Crypt.* 273.

FOUND by Mr. W. Borrer on the smooth bark of young oaks in Sussex, along with *Lichen analeptus, t.* 1848. In the original specimen of Ehrhart, now before us, these two species are confounded; but as the present only belongs to *Opegrapha*, his *Graphis*, we must do him the justice to presume it is what he intended. We find no mention of it in any other publication.

The thin, smooth, pale brown, somewhat copper-coloured crust forms limited patches of various sizes, very much like those of the *Lichen* above mentioned. The fructification differs essentially, consisting in the present instance of the true oblong clefts of an *Opegrapha*, generally simple, ranged in a parallel manner, very small, and furnished with an extremely narrow black edge.

1911

July 22nd 1911. Published by Geo. Sowerby London.

V

42.

OPEGRAPHA diaphora.

Various-fruited Opegrapha.

CRYPTOGAMIA Algæ.

GEN CHAR. *Seeds* in black, linear, sessile, simple or branched, bordered *clefts*, in an uninterrupted crust.

SPEC. CHAR. Crust thin, smooth, white. Clefts simple, elevated, unequal; the largest elongated and wavy.

SYN. Opegrapha diaphora. *Ach. Meth.* 19. *Winch. v.* 2. 30.

O. varia. *Persoon in Ust. Ann. fasc.* 7. 30.

Lichen diaphorus. *Ach. Prodr.* 20.

NOT unfrequent on the trunks of trees. We received it from Mr. Turner, who had previously determined the species, and we find no essential difference between his specimen and those of Acharius and Swartz. We confess however very great difficulty in distinguishing the present species from *O. notha, t.* 1890.—The crust is indeterminate, scarcely limited, thin, either quite smooth or a little scaly, not powdery, white, scarcely greyish. Clefts rather dispersed, of two different appearances, either oblong, short and straight; or linear, elongated, and zigzag. The breadth is nearly equal in all; they are very black, and their disk becomes by age dilated and somewhat convex.

2280

Mar 1, 1811 published by Jas. Sowerby London

2280

May 1 1811 published by Jas. Sowerby Lond.

√

2281

Map, now published by J. & F. Tourtel, London

V

1811

No. 1.1807. Publish'd by Jas. Sowerby, London.

V

OPEGRAPHA rubella.

Reddish Opegrapha.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* in black, linear, sessile, simple or branched, bordered *clefts*, in an uninterrupted crust.

SPEC. CHAR. Crust continued, limited, reddish ash-coloured, slightly rugged. Clefts short, rounded, somewhat curved, their disk broader than the borders.

SYN. Opegrapha rubella. *Pers. in Ust. Ann. fasc. 7, 31. t. 1. f. 2, A, a. Ach. Meth. 21. Winch, v. 2. 30.*

Lichen rubellus. *Ach. Prodr. 22.*

ON the trunks of large trees; communicated by Mr. Turner. Mr. Winch has thought this scarcely distinct from *O. vulgata, t.* 1811, but we find sufficient differences. The crust of the present is more uninterrupted, of a reddish smoky hue. Clefts regularly scattered all over it, like dots, numerous, short, rounded, almost all separate; their disk black, flattened, at least as broad as the margins, frequently broader. Persoon's figure represents the clefts more pointed at each end than we find them, but we see no material cause to suspect his synonym, upon which that of Acharius solely depends.

We have now published every species of this genus, known to us to be British, except *O. conglomerata* and *congesta*.

2349.

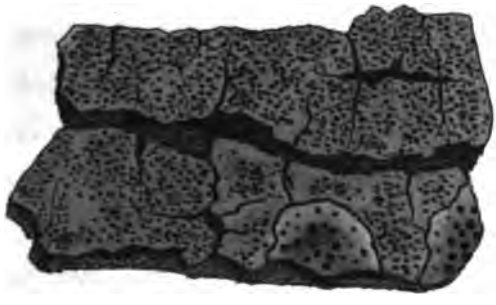


Plate 20 published by Jas. Sowerby London.

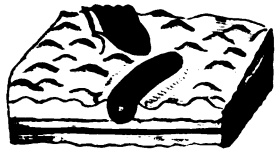
1789

Sup. Sculp. Published by Jas. Sowerby, London.

2282.

Map, not published by J. & F. Arrowsmith London.

1812



Nov. 1.1807. Published by Ja.s Sowerby, London.

1847.

Fab. 1. Bed. Published by Jas. Sowerby, London.

50.

OPEGRAPHA calcarea.

Chalky Opegrapha.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* in black, linear, sessile, simple or branched, bordered *clefts*, in an uninterrupted crust.

SPEC. CHAR. Crust thick, chalky, very white. Clefts prominent, aggregate, radiant, coal-black.

SYN. Opegrapha calcarea. *Turn. MSS.*

ONE of the most striking and distinct species of *Opegrapha*, which we have long known on the mortar of old walls in Norfolk and Suffolk, but which has been passed over as a variety of some more common species growing on trees. Mr. Turner has at length defined it, nor, since the genus has been studied, can there be a doubt of its difference from all hitherto-described species.

The crust is very conspicuous for its brilliant whiteness, and unpolished chalky surface. The fructification is observed by Mr. Turner to originate in little dots, each of which at length becomes a more or less compound assemblage of radiating, tumid, prominent clefts, no less remarkable for their deep black hue than the crust is for its pure whiteness. Each cleft has a strong longitudinal black furrow, with a thick, rounded, simple border on each side.

1790

Sept. 1. 1797. Published by Jas. Sowerby. London.

✓

1828

Drawn by J. Published by Jas. Sowerby. London.

OPEGRAPHA denigrata.

Black Opegrapha.

CRYPTOGAMIA Algæ.

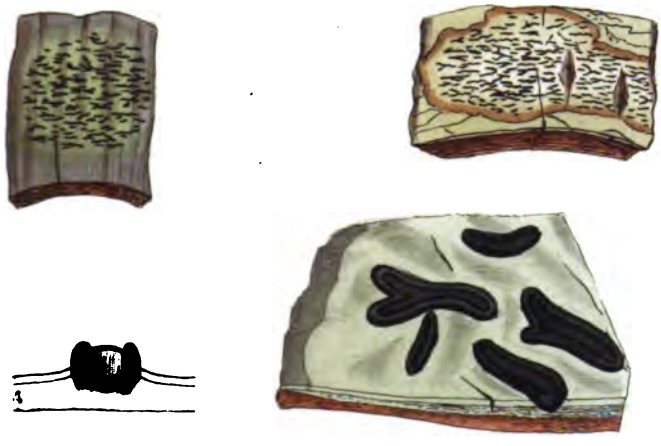
GEN. CHAR. *Seeds* in black, linear, sessile, simple or branched, bordered *clefts*, in an uninterrupted crust.

SPEC. CHAR. Crust very thin, membranous, smooth, white. Clefts slightly prominent, coal black, smooth, crowded, wavy, simple or divided.

SYN. Opegrapha denigrata. *Ach. Meth.* 27.
O. atra. *Persoon in Ust. Ann. fasc.* 7. 30. *t.* 1. *f.* 2, C, c.
Lichen denigratus. *Ach. Prod.* 24.

WE have been backward in adopting most of the genera into which the learned Professor Acharius has divided the great family of *Lichen*, because we knew his studies to be progressive, and that he had not yet accomplished all his designs. The genus of *Opegrapha* however, named and characterized by Humboldt and Persoon, and consisting of numerous species, confounded by Linnæus under his *Lichen scriptus*, is so clearly distinct that we cannot hesitate to admit it. Adanson indeed had previously called it *Grafis*, in the same work in which he made a strange genus of Dillenius's *Sphagnum* 3, 4, 10—13, and called it *Green*, in defiance of all Greek and Latin nomenclature: but such whimsical writers, whether they happen to be occasionally right or wrong, neither deserve nor receive any attention, because their perverse changes and contrarieties, if listened to, would give more trouble than any of their discoveries could compensate; and it is always to be suspected that truth is not their primary object; which is notorious with regard to Adanson.

The present species grows on the smoothest bark of trees. Its very thin, greenish-white, smooth crust forms roundish patches, inseparable from the bark. The lines or clefts of fructification are peculiarly black, crowded, somewhat parallel, undulating, simple or branched, a little prominent, and but slightly sunk into the crust, which does not rise into a border at their sides.



Bonsi 1.2.Sep. Published by Jas. Sowerby London.

1754

June 1. 1807 Published by Jas Sowerby London.

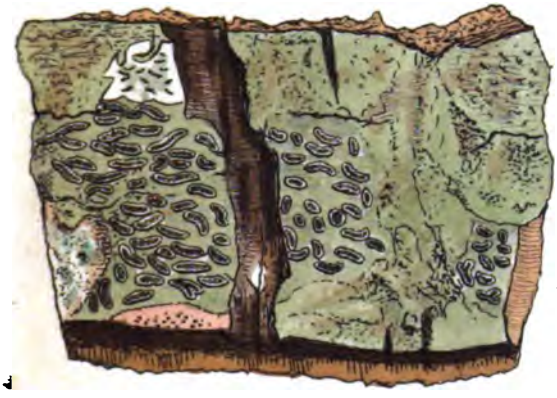
1755

Jesse 1. alley. Published by Ja.s Sowerby London.

✓

1813

Nov. 1.1817. Published by Jas. Sowerby Lon.



Apr. 1. 1816. Published by Jas. Sowerby London.

1756

Jun. 1. 1789. Published by Ja.s Sowerby, London.

2656.

Sowerby Pub.d by Mr Sowerby London.

V

2520.

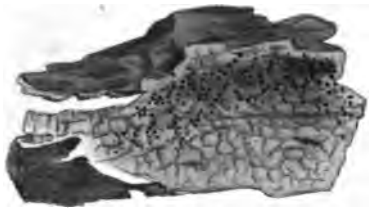


Plate 2 was published by J. & L. Lowe, 1 Sept. 1830

CALICIUM ferrugineum.

Rusty Calicium.

CRYPTOGAMIA Algæ.

GEN CHAR. *Receptacles* capitate, stalked, totally different in substance and colour from the crust, with a border of their own substance; disk powdery.

SPEC. CHAR. Crust thin, granulated, tartareous, rusty-white. Receptacles on short stalks, thick, black, often compound, with a pale rusty disk.

FOUND by Mr. Turner on pales at Framingham, near Norwich. We are obliged to him for specimens, and for the name under which this decidedly new species is to appear in the *Lichenographia Britannica.*

We think it proper also now to adopt the genus *Calicium*, of which many species have already appeared, as Lichens, in this work. See *t.* 414, 810, 1464, 1465, 1539, 1540, 1832, 1865, 2462. Among all these the *inquinans*, *t.* 810, comes the nearest to that before us, especially in the crust; but its receptacles are much more sessile, scarcely rising above the inequalities of the crust, and their disk is black, merely a little paler than the margin. The receptacles of the present are smaller, and their disk of a very light rusty or copper brown. Several of them are remarkably compound or tufted, with small imperfect disks, an accident observable, in some degree, in other species.

1865

Mar. 1868 Published by J. & A. Arch London.

62.

CALICIUM ferrugineum.

Rusty Calicium.

CRYPTOGAMIA Algæ.

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LICHEN clavellus.

Grey-crusted Pin-headed Lichen.

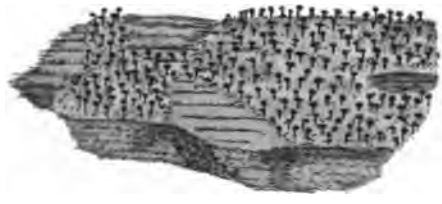
CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust rugged, cracked, greyish white. Tubercles on black foot-stalks, sphærical, flattish, black, powdery, with a greyish black border; grey beneath.

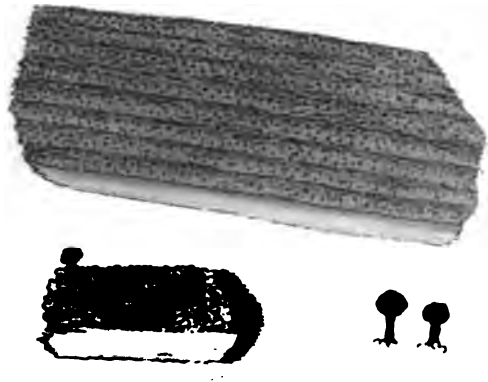
SYN. Lichen clavellus. *Ach. Prod.* 83.
Calicium claviculare. *Ach. Meth.* 90.

FOUND plentifully on the same barn with the preceding, with which it is often so intermixed that their two crusts can hardly be distinguished. That of the present however is thicker, lobed and cracked rather than granulated. The fructification is totally different. Little black cylindrical stalks rise plentifully from the cracks of the crust, each bearing a round flattish head, black and powdery above, greyish beneath, and surrounded by a thin greyish border. A doubt has been suggested whether the crust belongs to these heads. From very careful examination, and the analogy of other species of *Calicium* in Acharius, we believe it does. It may be more doubtful whether our *L. sphærocephalus*, *t.* 414, be a different species. If we are right in its crust, it is certainly so. However this may be, having now the true *L. clavellus*, compared with specimens from Acharius, and agreeing with them in crust and fruit, we think proper to figure it, as he says in his *Methodus* he could quote no certain synonym, nor figure, for it. We can assure him, notwithstanding the deference so justly his due, that our *L. inquinans*, *t.* 810, appears to us always quite distinct from this.



June 1. 1805. Published by Jas. Sowerby, London.

Oct 1 1810 Published by Jas Sowerby London.



June 1 1806. Published by R. Ackermann, London.

66.

LICHEN sphærocephalus.

Black Pin-headed Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

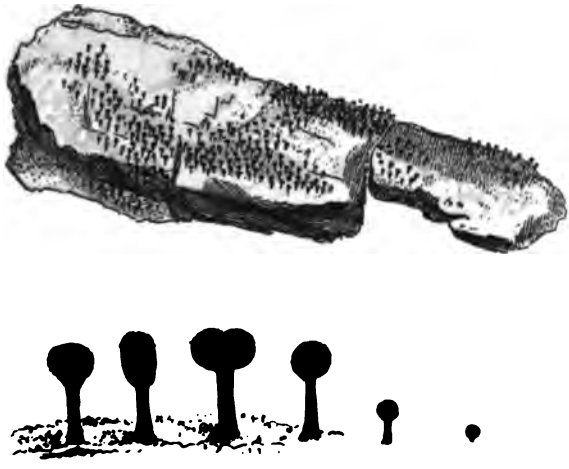
SPEC. CHAR. Crust leprous, yellowish. Tubercles on black footstalks, globose, dark grey, discharging black powder intermixed with fibres.

SYN. Lichen sphærocephalus. *Web. Gott.* 198.
Mucor lichenoides. *Linn. Sp. Pl.* 1655. *Relh. Cant.* 473. *With. Bot. Arr. v.* 3. 483.
Trichia lichenoides. *Sibth. Ox.* 406. *With. Bot Arr. ed.* 3. *v.* 4. 399.
Clathrus cinereus. *Huds. Fl. An.* 631.
Coralloides fungiforme arboreum nigrum, vix crustosum. *Dill. Musc.* 78. *t.* 14. *f.* 3.

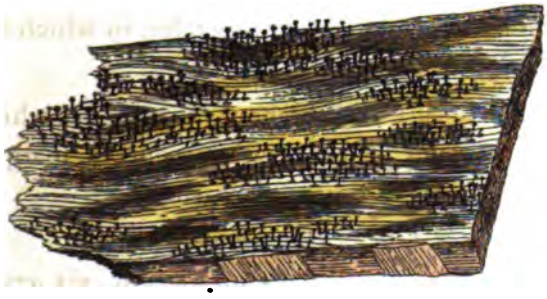
IN the clefts of the bark of old oaks this little plant may be found at almost all seasons, but is most conspicuous after rain.

Crust leprous, very thin and much dispersed, of a yellowish or greenish colour, and probably overlooked as *Byssus candelaris* by most writers, who have described as a fungus what are the genuine tubercles of this *Lichen*, and which rise from the crust on slender black erect stalks, seldom one line in height, themselves being smaller than wild-poppy seed, globular, grey or blackish, generally solitary, but we have found 2, and Haller 3, on one stalk. In due time these tubercles burst at the summit, and throw out black powdery seeds mixed with fibres, in which respect this species agrees with *Lichen fragilis* and *globiferus* already figured in the 2d volume of the present work.

Lichen sphærocephalus was first so named by Weber, who considers it as *Mucor sphærocephalus* as well as *M. lichenoides* of Linnæus. Dillenius knew it well, and has justly arranged it near our *Lichen byssoides*, *t.* 373, to which it is in many respects allied. In writing our account of the latter we were not aware of the *Lichen* now before us being placed by Mr. Hudson in his very incorrect genus of *Clathrus*.

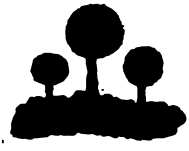


July 1797 Published by J. Sowerby London.



Sowerby published by Jos. Sowerby London.

1540

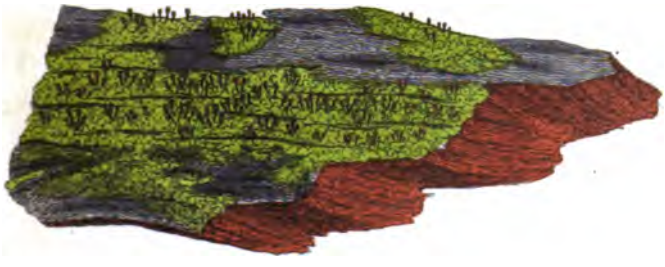


Published by Tilt & Hogg, London.

V

1832

Published by Jas Sowerby, London.

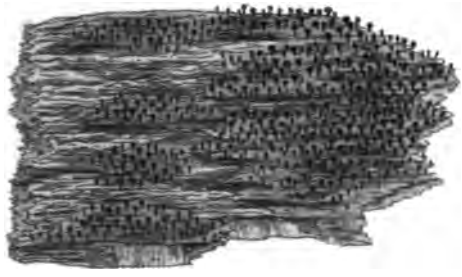


Jan 1 1819 published by Jas Sowerby London

2502.

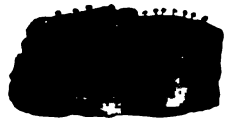
Just published by J. Kennedy London.

2503



[illegible]

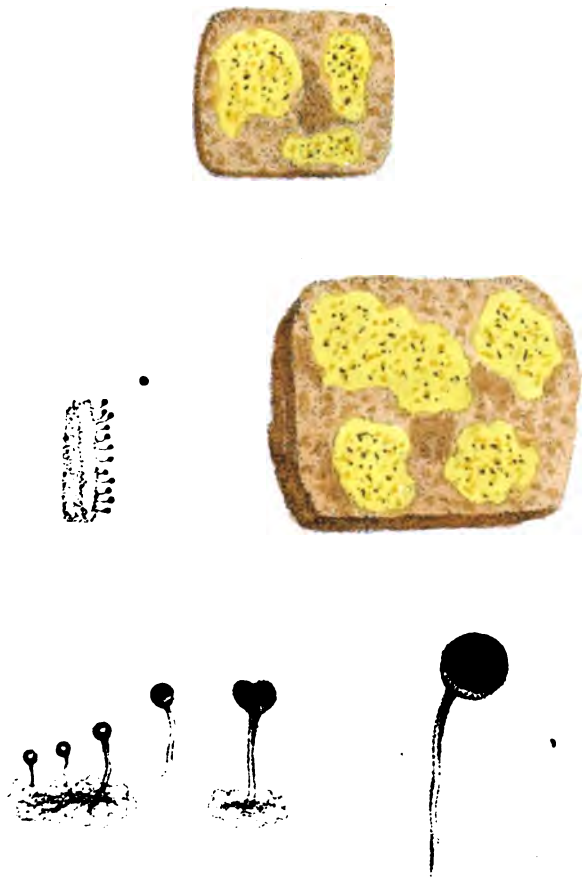
2557.



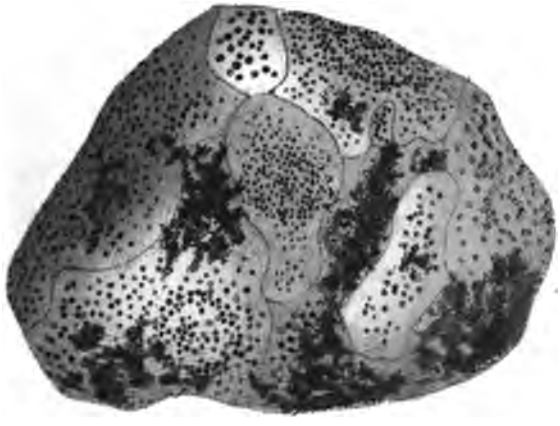
Engraved, published by Jos. Thomas, London

2385.

Rev. 1. unpublished by J.A. Lowry Lockin



Decl. 1. Mint. Published by W. Sowerby London.



Murray, Published by Jo. Murray, London.

LICHEN Harrimanni.

Mammaceus Dist Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, minute shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust tartareous, contiguous, limited, mouse-coloured, with very minute depressed dots. Tubercles minute, immersed, globose, with a prominent bordered orifice; dirty white within.

SYN. Verrucaria Harrimanni. *Ach. Lichenogr. Univ.* p. 1. No.

WE have long ago wished to dedicate to our liberal friend, the Rev. Mr. Harriman, some one of the numerous Lichens of which he was the first discoverer, but could never obtain his consent, which probably his correspondent Dr. Acharius did not think it soliciting. We are glad that so worthy a name has become thus properly commemorated.

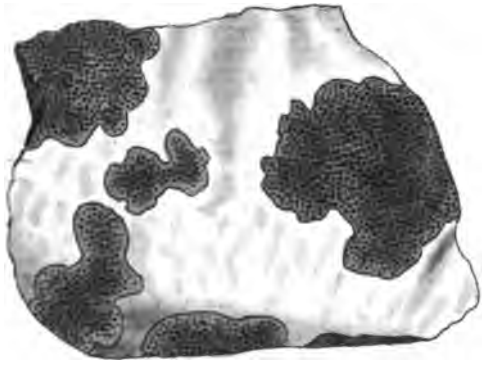
Mr. Harriman found the present species of *Lichen*, or, according to the Acharian system, *Verrucaria*, on hard grey calcareous rocks in the county of Durham. Its patches, though inseparable from the stone, are very distinctly limited, and visibly prominent above its surface, of a hard tartareous texture, white within, greyish or pale mouse-coloured on the outside, which is thickly besprinkled with innumerable minute depressions or dots. The tubercles are truly those of a *Verrucaria*, deeply sunk in the crust, blackish, their little bordered orifices only projecting slightly above its level.

2539.

Mary Ann Walford del. by Jos. Lowry Junior

V

Fig. 6



Mag. as published by Dr. S. Lovén.

2456.

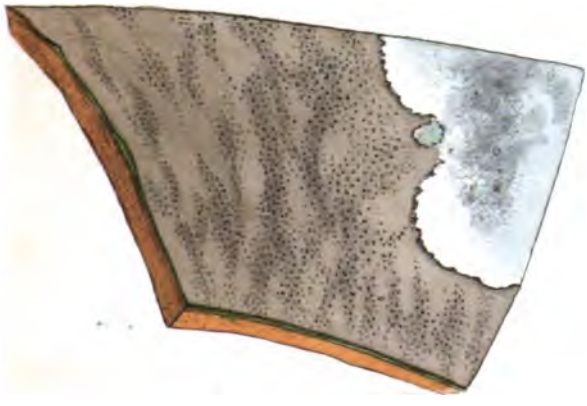
Gadolinite, detailed by J. C. Crosby Brown

1499

Stanford & Co. Cartographers London

1712

Mar. 1. 1817. Published by Jas. Sowerby London.



Jones sculpt. Published by Jas. Sowerby, London.

1848.

Feb. 1, 1848. Published by Jas. Sowerby, London.

2412

May 1 1811 published by J.F. Rowbotham London.

2455.

C. ...pu...ilyfe Cordeliae

√

1681

Pub. Published by Ja.s S. ..rby London.

LICHEN inclusus.

Covered Lichen.

CRYPTOGAMIA Alga.

Sp. Char. White, flattened warts.

Fruit from shields or tubercles, in which the [illegible] are [illegible].

Sp. Char. Crustaceous, cream-coloured, polished. Shields [illegible], flesh-coloured, with a thin inflexed [illegible] and [illegible] in a thick outer coat of the [illegible].

THIS new [illegible] which Mr. Sowerby has aptly named [illegible] Durham, by the [illegible]. I have found it plenti[illegible] on trees upon the hill immedi[illegible] but it appears to be [illegible] which it may have been [illegible] indeed part of Dille[illegible] this. I have no [illegible] of their being perfectly defined, [illegible].

[illegible] cream-coloured, not grey or glau[illegible] of purple. Shields very [illegible] but in aggregate they are concave, [illegible] thin and incurved in [illegible] and very brittle, [illegible] in a global cavity, formed out [illegible] above its general surface, [illegible] in general, with a thick inflexed [illegible] and [illegible] from the edge of the [illegible] of these cavities are crowded as [illegible] a very different mode from the [illegible] of *L. [illegible]*, and the perfora[illegible] than in that species.

LICHEN [illegible].

[illegible] Lichen.

CRYPTOGAMIA Algæ.

Gen. Char. [illegible] scattered warts.

[illegible], in which

[illegible]

Spec. Char. [illegible], with

[illegible], opening by an

[illegible]

[illegible], jagged

[illegible]

Syn. [illegible] Turn. and Borr.

[illegible]

[illegible]

2401.

Engraved & published by J. & H. Lowndes, London

89.

LICHEN melaleucus.

Brownish Covered Lichen.

CRYPTOGAMIA Algæ.

Gen. Char. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

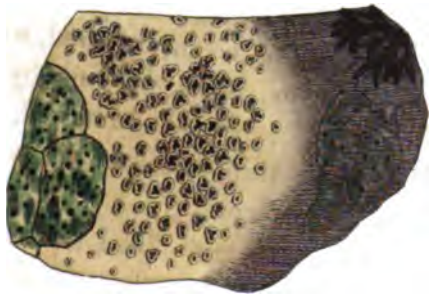
Spec. Char. Crustaceous, cream-coloured, with scattered, rather convex, warts, opening by an irregular inflexed orifice. Shields immersed, depressed, brown, with a thin, obsolete, jagged border, of their own substance.

Syn. Thelotrema melaleucum. *Turn. and Borr. Mss.*

FOUND on the bark of young oaks, in St. Leonard's forest, Sussex, by Mr. W. Borrer, who proposes to publish it, under the synonym we have cited, in the *Lichenographia Britannica.* We retain the specific name, in reducing the plant to *Lichen*; because the former *L. melaleucus, Ach. Prod.* 15, is a nonentity, or rather not distinct from *gemmatus, ibid.* 17, as Dr. Acharius has been so good as to inform us by letter.

The present is most akin to our *inclusus, t.* 678, but sufficiently different. Its crust makes irregularly elliptical, cream-coloured, thin patches on the smooth bark, an inch or two over, of a filmy, scarcely tartareous, substance, smooth and rather polished, not bordered, but gradually thinner and fainter at the edge. Numerous, rather tumid, warts are scattered over the surface, in each of which is deeply lodged a brown depressed shield, or disk, with a thin, irregular, inflexed, often obsolete, border, of its own hue and substance, encompassed with the irregular orifice of the wart, though not always united therewith

2401.



Engraved & Published by J. & J. Lowndes, London

90.

LICHEN ceuthocarpus.

Tumid dot Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

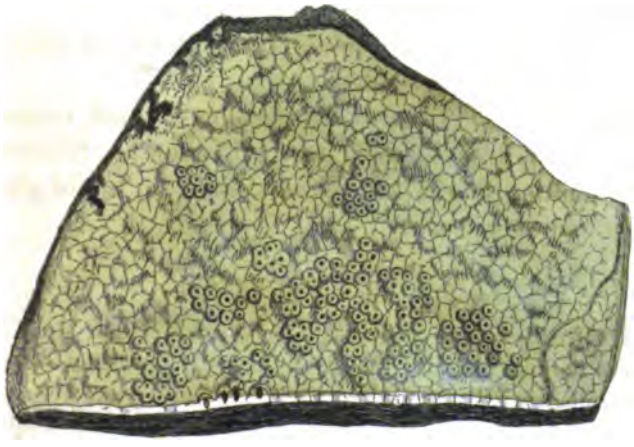
SPEC. CHAR. Crust calcareous, continued, cream-coloured, tessellated, unequal, smooth. Shields minute, black, depressed, sunk in tumid globose smooth warts.

FOR this we are obliged to Mr. W. Borrer and Mr. Turner, who both at first thought it the *Sagedia lævata* of Acharius, so called in his new general work on Lichens, not yet come to our hands. Mr. Turner having found this to be a mistake, informs us the plant will be called *Pertusaria ceuthocarpa*, in Mr. Borrer's own *Lichenographia Britannica*, now in the press. Of the characters of these genera we are as yet ignorant, but, as a species, the plant before us is unquestionably distinct from all we have published. Sir Thomas Gage, bart., as well as Miss Hutchins, have found it in Ireland, growing, in large uninterrupted patches, on slate rocks.

The crust is continued, of a tolerably even thickness, white and chalky within, externally cream-coloured, tessellated, smooth and not at all mealy. The surface is rather unequal, especially the fructifying parts, where globose, depressed, very smooth warts arise, in the centre of each of which is a little black sunk concave shield, internally pale brown. We should have referred this species to the genus *Urceolaria* of Acharius, among those already proposed. We fear much inconvenience from the common error of making too many genera in this tribe, as in others.

Mr. Borrer observes little black tubercles scattered over the surface of this *Lichen*, like those of *L. microsticticus*, t. 2943.

2372



Jan. 1. 1813 published by J. & A. Arch. Lond.

92.

LICHEN hymenius.

Wrinkled Hollow-shielded Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

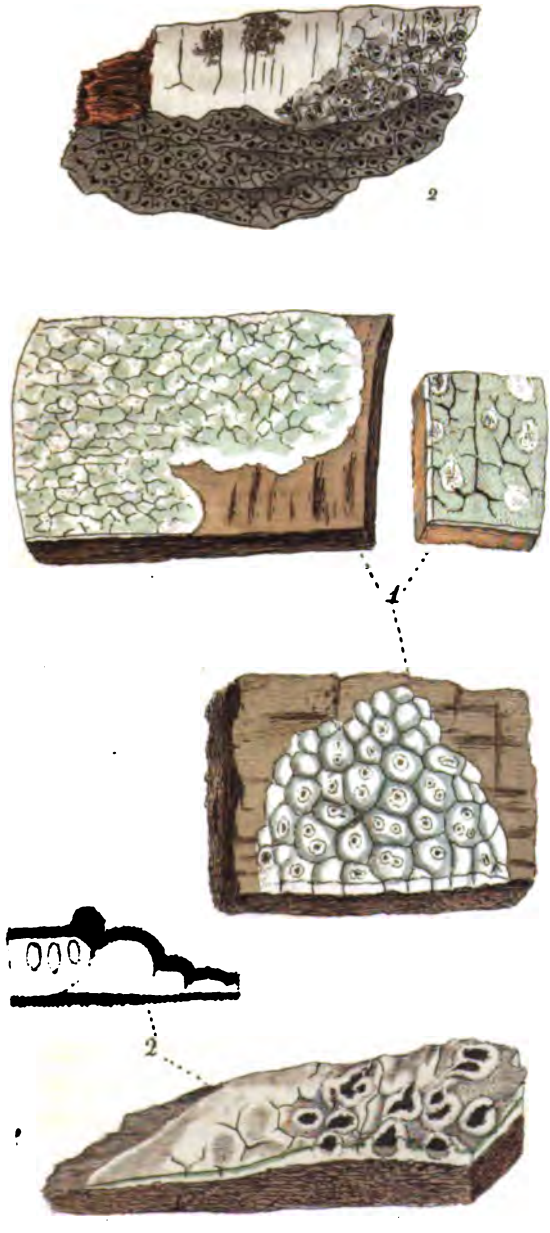
SPEC. CHAR. Crust cartilaginous, uneven, somewhat polished, greenish grey; at length extremely tumid and uneven. Shields elevated, crowded, hollowish, very irregular, black, with an excessively tumid wrinkled notched margin of the substance of the crust.

SYN. Lichen hymenius. *Ach. Prod.* 80.
L. pertusus. *Wulf. in Jacq. Coll. v.* 2. 181. *t.* 13. *f.* 2. *Schrad. Spicil. t.* 1. *f.* 5.
Thelotrema hymeneum. *Ach. Meth.* 133.

WE first received this from the late Mr. W. Brunton in 1801. It has been long known to Mr. Turner, and is not very unfrequent on the barks of old oaks and other trees. We have Hampshire specimens from Mr. Lyell and Mr. W. Borrer. Wulfen took it for *L. pertusus, t.* 677, a mistake which the accurate Schrader easily corrected.

It is remarkable for its extremely wrinkled and prominent aspect, consisting of innumerable irregular crowded elevated warts, each of which bears a blackish depressed shield, of the most irregular figure, enclosed in a very thick, tumid, inflexed, waved and notched margin, of the substance of the wart or crust. The warts cut perpendicularly look like the grinders of some quadruped. The crust spreads indeterminately, and is of a dull greenish grey, white within.

Acharius has formed a new genus *Thelotrema* of this, *L. pertusus, inclusus,* and a few other species, which bear their shields in a sort of warts.



Apr. 1.1817. Published by Jas. Sowerby London.

92.

LICHEN hymenius.

Wrinkled Hollow-shielded Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust cartilaginous, uneven, somewhat polished, greenish grey; at length extremely tumid and uneven. Shields elevated, crowded, hollowish, very irregular, black, with an excessively tumid wrinkled notched margin of the substance of the crust.

SYN. Lichen hymenius. *Ach. Prod.* 80.
L. pertusus. *Wulf. in Jacq. Coll. v.* 2. 181. *t.* 13. *f.* 2. *Schrad. Spicil. t.* 1. *f.* 5.
Thelotrema hymeneum. *Ach. Meth.* 133.

WE first received this from the late Mr. W. Brunton in 1801. It has been long known to Mr. Turner, and is not very unfrequent on the barks of old oaks and other trees. We have Hampshire specimens from Mr. Lyell and Mr. W. Borrer. Wulfen took it for *L. pertusus, t.* 677, a mistake which the accurate Schrader easily corrected.

It is remarkable for its extremely wrinkled and prominent aspect, consisting of innumerable irregular crowded elevated warts, each of which bears a blackish depressed shield, of the most irregular figure, enclosed in a very thick, tumid, inflexed, waved and notched margin, of the substance of the wart or crust. The warts cut perpendicularly look like the grinders of some quadruped. The crust spreads indeterminately, and is of a dull greenish grey, white within.

Acharius has formed a new genus *Thelotrema* of this, *L. pertusus, inclusus,* and a few other species, which bear their shields in a sort of warts.

Apr 1 1810 - Published by Jas Sowerby London

94.

LICHEN Hoffmanni.

Hoffmannian Hollow-shielded Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

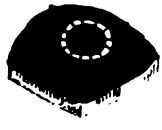
SPEC. CHAR. Crust indeterminate, greenish ash-colour, formed of tessellated crowded warts. Shields immersed in the raised centre of each wart, nearly flat, brownish, with an undivided, elevated, pale, powdery margin, of the substance of the crust.

SYN. Lichen Hoffmanni. *Ach. Prod.* 31.
L. rupicola. *Hoffm. Enum.* 23. *t.* 6. *f.* 3.
Verrucaria contorta. *Hoffm. Pl. Lich. v.* 1. 97. *t.* 22. *f.* 1—4.
Urceolaria Hoffmanni. *Ach. Meth.* 145. *Winch Guide, v.* 2. 48.

FOUND on rocks, stones and walls in many places. We have it from Wales, Yorkshire, Sussex and Suffolk. It varies much according to its different periods of growth, hence a very able botanist has judged it one state of *L. crenulatus, v.* 13. *t.* 930, which if true might justly bring upon us the censure of our less learned readers for making too many species, for we believe these are as distinct as most of the plants described in our numerous volumes.

This *Lichen* is related to *agelæus, t.* 1730, and *fibrosus, t.* 1732. Its crust in a young state is of a pale greyish green, and consists of numerous angular crowded smooth portions, paler at their edges, raised in their centre, where is lodged one, occasionally 2 or 3, small immersed grey slightly concave shields, with a conspicuous elevated whitish powdery border of the substance of the crust, which border sometimes forms a slightly spiral line. The aggregate crust has a plain, not fibrous, edging. By age it grows whiter, the portions more tumid, and the shields brown or blackish and nearly flat. We have it overrunning loose pebbles on all sides in a dispersed manner.

1732



Engr. & Lith. Published by Jas. Sowerby, London

95.

LICHEN ſcrupoſus.

Hollowed Lichen.

CRYPTOGAMIA Alge.

GEN. CHAR. Male, ſcattered warts.

Female, ſmooth ſhields or tubercles, in which the ſeeds are imbedded.

SPEC. CHAR. Cruſtaceous, aſh-coloured, granulated. Shields immerſed, black; their margin incurved and finely notched.

SYN. Lichen ſcrupoſus. *Dickſ. Crypt. faſc.* 1. 11. *With. Bot. Arr. v.* 3. 179. *Sibth. Oxon.* 322.

L. excavatus. *Relh. Cant.* 426.

Lichenoides cruſtaceum et leproſum, ſcutellis nigricantibus majoribus et minoribus, varietas B. *Dill. Muſc.* 133. *t.* 18. *f.* 15, B.

ON dry chalky heaths, and brick walls not unfrequent in Norfolk, Suffolk, and Cambridgeſhire. The cruſt is mealy, varying in thickneſs, rugged, very white and chalky in appearance when dry; when wet more aſh-coloured. The ſhields are not only imbedded in it, but alſo concealed by an elevated thick inflexed margin, crenated at the edge, of the ſubſtance and colour of the cruſt. Their diſk is concave, of a brown black, or greyiſh.

This Lichen was confounded by Hudſon and Dillenius with the *ater*, from which it is very diſtinct in texture and colour. Dr. Sibthorp in his *Flora* ſeems not to have been aware of its being the *excavatus* of Mr. Relhan, but has erroneouſly referred that to the *muſcorum* of other authors, figured in *Flo. Cant.* 424. Micheli's figure *tab.* 52. *ord.* 33. (not 53.) ſeems to be our *ſcrupoſus*.

Vol. 1. 1828. Published by Jas. Sowerby, London.

96.

LICHEN cinereus.

Grey Hollow-shielded Lichen.

CRYPTOGAMIA Algæ.

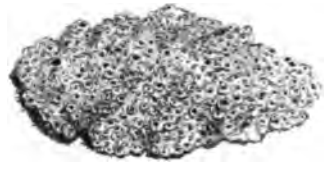
GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

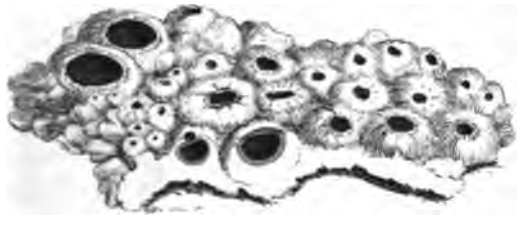
SPEC. CHAR. Crust grey, rugged and cracked, with a broad, greenish, undulated border. Shields immersed, solitary or clustered, slightly concave, black, with an elevated entire margin, of the substance of the crust.

SYN. Lichen cinereus. *Ach. Prod.* 32. *Linn. Mant.* 132. but not *Engl. Bot. t.* 820.
Urcèolaria cinerea. *Ach. Meth.* 143.

THE most common of all Lichens, according to Mr. Borrer, both on the downs and on the sea-shore of Sussex, growing on loose exposed flints. Whether it may have been confounded with *ater*, or with any thing else, or whether it may have passed unnoticed by British botanists, we have no certain information. We are certain of Dr. Acharius's name, and he is our only authority for the reference to Linnæus. What we have called *cinereus*, in *t.* 820, must retain the name of *multipunctus*, originally given by Hoffmann. The *L. multipunctus* of Ehrhart I had previously published in *Tr. of Linn. Soc. v.* 1, as *encaustus*, by which name it is distinguished in the works of Acharius.

The Lichen before us is nearly allied to our *fibrosus*, *t.* 1732, and *tuberculosus*, *t.* 1733, but is not fibrous, neither is it regularly tessellated, but rather swelling into roundish irregular knobs, and at length cracked. Its colour is grey; the substance thin and hard. Towards the margin it is obscurely radiated, and the very edge is dilated, undulated, dark-greenish, and somewhat polished. Shields small, elevated, clustered or solitary, black, slightly concave, with an elevated, smooth, entire border, of the substance of the crust.





97.

LICHEN cinereus.

Grey cluſter-ſhielded Lichen.

CRYPTOGAMIA Algæ.

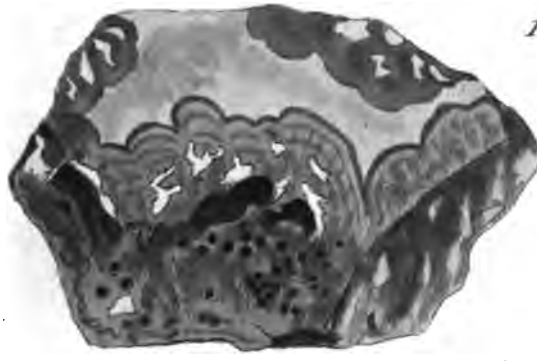
GEN. CHAR. Male, ſcattered warts.
Female, ſmooth ſhields or tubercles, in which the ſeeds are imbedded.

SPEC. CHAR. Cruſt grayiſh white, cracked and teſſellated, with a black edge. Shields ſunk, irregular, concave, black, often two or three in each portion of the cruſt.

SYN. Lichen cinereus. *Linn. Mant.* 132. *Hudſ.* 525. *Achar. Prod.* 32. *Hoffm. Enum. t.* 4. *f.* 3.
Verrucaria multipuncta. *Hoffm. Fl. Germ. v.* 2. 185.
Patellaria multipuncta. *Hoffm. Pl. Lich. t.* 63. *f.* 1—3.

SEVERAL of the cruſtaceous Lichens of Linnæus and other authors are ſo ſlightly deſcribed, as to be involved in almoſt impenetrable obſcurity. Many different productions perhaps accord equally well with each deſcription, and the authors themſelves may often have intended more than one under each. Among theſe, few botaniſts have been well acquainted with the *cinereus*, firſt deſcribed in the *Mantiſſa*. The *ater* of Hudſon, as Dr. Acharius (in his excellent work on Lichens, lately publiſhed in Sweden) juſtly obſerves, is *cinereus* of moſt authors: we know it to be the *cineraſcens* of Dr. Withering, by a ſpecimen from himſelf to Mr. D. Turner, in which the margin of the ſhields is merely a little grayiſh, not white as in common *ater*. He therefore erroneouſly quotes Prof. Hoffmann's figure, *Enum. Lich. t.* 4. *f.* 3, which is our true *cinereus*, and was ſo underſtood by Hoffmann. As Acharius confirms this, and a ſpecimen from Mr. Dickſon of what he conceives to be Mr. Hudſon's plant accords with it, we have no doubt remaining, though the Linnæan collection has no ſpecimen marked *cinereus*.

This plant is remarkable for having frequently 2 or more of its hollow irregular ſhields ſituated in one portion of the cruſt, but not cloſe together. It grows on ſtone walls as well as rocks. On granite the cruſt is more gray than on calcareous ſtones, in which ſtate it is Hoffmann's *Patellaria multipuncta*. The Rev. Mr. Alderſon ſent theſe ſpecimens from Norfolk.



1751

June 1.1807. Published by Jas. Sowerby London.

98.

LICHEN microsticticus.

Little-dotted Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crustaceous, cracked, warty, cream-coloured, with a thin, smooth, white, evanescent edge. Tubercles minute, black, with a sooty uneven border.

SYN. Lichen punctatus. *Dicks. Crypt. fasc.* 3. 15. *With. v.* 4. 19.—See *Winch v.* 2. 47. *n.* 1301.

WE gathered this on slate rocks on the hills about Hafod, Cardiganshire, and have received it from the Rev. Dr. Stuart and others, as well as from Mr. Dickson for his real *L. punctatus*, for which we have mistaken a wrong plant in *v.* 7. *t.* 450. To this latter perhaps the figure in *Fl. Dan. t.* 468. *f.* 2, may belong; certainly not to this present species.

We venture to go counter to the opinion of the great Dr. Acharius, who considers this as one form of *L. Westringii*, *t.* 2204; but our motive is chiefly to make this production known, and to invite discussion; not by any means to assert dogmatically what we cannot prove. The crust spreads over rocks in a thin, continued, though cracked, form, and is remarkable for the peculiar tenuity of its very smooth edge, which is evanescent, not limited, much less bordered with any dark colour. The general surface of the crust is cream-coloured, turning brownish by keeping, besprinkled with minute *papillæ* or warts, which indeed betray an analogy, but not necessarily an identity, with the genus *Isidium*. Very minute tubercles are scattered over the surface, whose disk is rather convex, their border uneven and of a still more opaque and intense black than the disk. The question is whether these be the real fructification of the crust, as we believe; or parasitical productions, as in *L. gelasinatus* of Withering. They certainly have no connexion with the fructification of *L. Westringii*. There being already more than one *L. punctatus*, we have chosen a new synonymous appellation.

Dent del Drac. Published by Jas. Sowerby, London.

99.

LICHEN punctatus.

Dotted Lichen.

CRYPTOGAMIA Algæ.

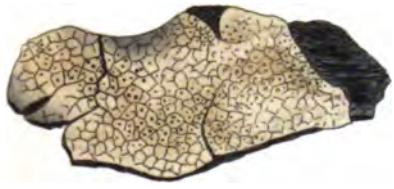
GEN. CHAR. Male, ſcattered warts.
Female, ſmooth ſhields or tubercles, in which the ſeeds are imbedded.

SPEC. CHAR. Cruſtaceous, cracked, greyiſh-white, with a very narrow black edge. Shields minute, very numerous, roundiſh, black, with a white margin incorporated with the cruſt.

SYN. Lichen punctatus. *Dickſ. Crypt. faſc.* 3. 15. *With. v.* 4. 19. *Flo. Dan. t.* 468. *f.* 2.

OBSERVED on a wall near Ludlow, by Dr. Joſeph Babington, in November 1796. Mr. Dickſon firſt found it on rocks in Scotland.

This ſpecies forms a thin hard cruſt of a greyiſh white, with a narrow black margin; ſo that when ſeveral plants grow together, they are diſtinguiſhed by a black line. The whole ſurface is full of little fiſſures, ſeparating it into ſmall angular portions. In the centre of each of theſe portions the fructification begins, being at firſt (according to Dr. Babington's obſervations) a greeniſh ſpeck, ſoon turning grey, then brown-red, and finally black. In this laſt ſtage, the ſhields riſe out of the cruſt and often become convex, having a broad white elevated margin, not viſible in a young ſtate becauſe incorporated with the cruſt.——The progreſs of this little vegetable has not before been noticed. The figure in *Flora Danica* repreſents it well of its natural ſize, but wants a magnified portion to make it intelligible.



Published by G. Scott, London.

LICHEN Acharii.

Acharian Lichen.

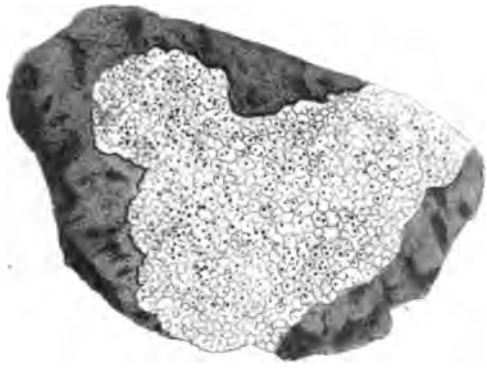
CRYPTOGAMIA Algæ.

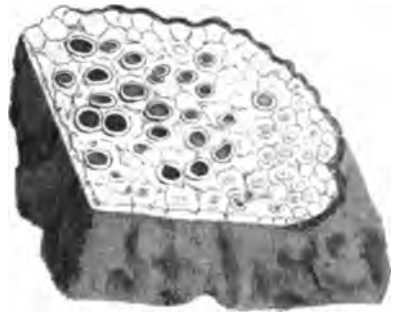
GEN. CHAR. Male, ſcattered warts. Female, ſmooth ſhields or tubercles, in which the ſeeds are imbedded.

SPEC. CHAR. Cruſt ſmooth, a little cracked, pale brick-coloured. Shields ſunk in the cruſt, reddiſh.

SYN. Lichen Acharii. *Achar. Prod.* 33. *cum ic.*
L. lacuſtris. *With. v.* 4. 21. *t.* 31. *f.* 4. *Hull.* 290.

FOR various ſpecimens of this little-known Lichen we are indebted to the Rev. Mr. Harriman, and Mr. Oliver. It was firſt found by J. W. Griffith, eſq. in North Wales, who ſent it to Dr. Withering; and is only met with on ſuch granite ſtones, or rocks, as are occaſionally inundated, as about the bed of the Tees, and ſhores of alpine lakes, having in its moſt common ſtate the appearance of an ochraceous depoſit of the water. The cruſt, though not very thick, is firm, hard, ſmooth, and even, as if partly poliſhed, becoming more or leſs cracked by age. The colour is a pale yellowiſh brown; in ſome ſpecimens, which ſeem not otherwiſe diſtinct, dirty white. The ſhields are ſmall, pretty numerous, variouſly ſcattered, ſunk in the cruſt, concave, of a deeper or more reddiſh colour than the cruſt, ſurrounded at firſt by a pale elevated border, which afterwards diſappears. In this advanced ſtate of *L. Acharii*, we know not how to convey a better idea of it than by comparing it to a waſh of water-colour mixed up with a large portion of gum, or ſize, the numerous air-bubbles formed by which ſeem, by ſubſiding, to have left minute depreſſions ſcattered over the ſurface, and theſe depreſſions are the ſhields.





Pl. 1. Fig. 8. Published by J. Sowerby London

LICHEN Gagei.

Gagean Urceolate Lichen.

CRYPTOGAMIA Algæ.

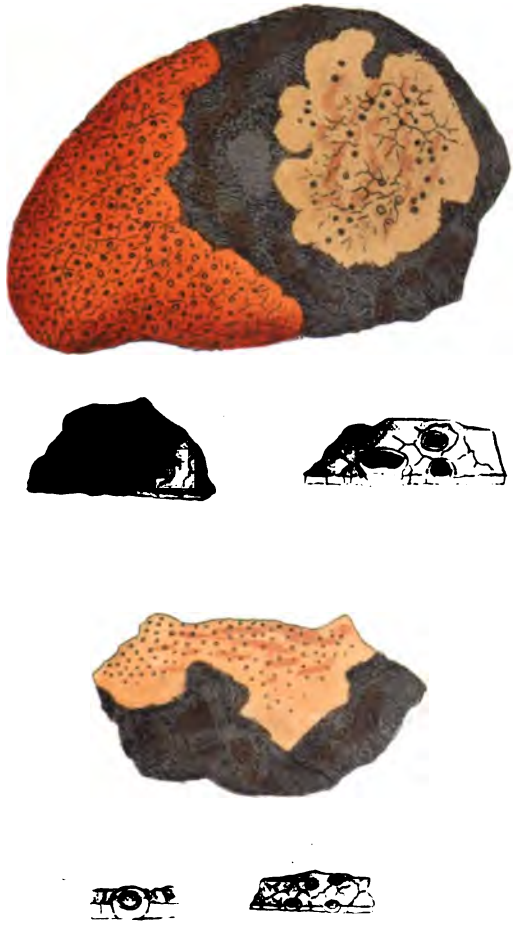
GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust continued, calcareous, smooth, brownish-white; irregularly cracked when dry. Shields very minute, blackish, sunk in the crust.

THIS, which is a species of the Acharian genus *Urceolaria*, was discovered on the rocks of Glena and Glen Flesk near Killarney, by Sir Thomas Gage, Bart., but is not common there. We have inscribed it with the name of its intelligent discoverer, as a mark of our gratitude and respect. Few botanists are more deeply versed in this difficult tribe of vegetables.

The only species to which this can possibly be compared is *L. Acharii*, *t.* 1087. Like that it grows on rocks occasionally inundated, and agrees with it in the hard even texture, and apparently levigated surface, of its uninterrupted inseparable crust. The colour however is a very pale brownish or ochrey white, not red. We are aware indeed that *L. Acharii* sometimes loses nearly all its red hue. But the far more minute, blackish, not red, shields of *L. Gagei*, which, in a young state, resemble diminutive inky dots or stains on the crust, serve amply to discriminate these two neighbouring species.



Nov.r 1 1802 Published by Jas Sowerby London

102.

LICHEN geographicus.

Map Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, ſcattered warts.

Female, ſmooth ſhields or tubercles, in which the ſeeds are imbedded.

SPEC. CHAR. Cruſtaceous, ſmooth, yellow with a black margin. Tubercles black, flat and irregular, imbedded in the cruſt.

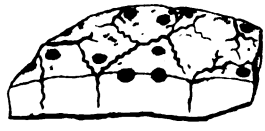
SYN. Lichen geographicus. *Linn. Sp. Pl.* 1607. *Hudſ. Fl. An.* 523. *With. Bot. Arr. v.* 3. 168.

Lichenoides nigro-flavum, tabulæ geographicæ inſtar pictum. *Dill. Muſc.* 126. *t.* 18. *f.* 5.

THIS pretty and ſingular production, which many a heedleſs eye paſſes by in its natural place of growth, but which, when preſented to their notice, the moſt incurious perſons cannot help admiring, is found in elevated mountainous ſituations on the harder kinds of rocks, which it covers in large patches of a hard ſmooth inſeparable cruſt, of a bright yellow or greeniſh colour. The black undulating margin is ſo extremely thin, as to look like a mere ſtain on the ſtone; but when two plants of this Lichen meet, they crowd one another's margins into a narrower line, and ſometimes obliterate them, the yellow part of the cruſt riſing above them. This cruſt is full of cracks, eſpecially in dry weather, like the mud of a pond when dried up, and the whole is interſperſed with ſmall, unequal and irregular, black, opaque, angular, ſlightly concave tubercles or ſhields, exactly on a level with the cruſt in which they are imbedded. Hence the appearance of the whole gives ſome idea of a map, ſprinkled with towns, and interſected with rivers and boundaries of countries. We believe this ſpecies is never found on lime-ſtone. It is very doubtful whether *L. atro-virens* be ſpecifically diſtinct from this.

The yellow of the cruſt is ſometimes changed, by age or accident, to a grey, in which ſtate it might be taken for another ſpecies.

2580



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103.

LICHEN exanthematicus.

Eruptive Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, ſcattered warts.
Female, ſmooth ſhields or tubercles, in which the ſeeds are imbedded.

SPEC. CHAR. Cruſt aſh-coloured, ſmooth. Shields minute, concave, fleſh-coloured, ſunk in little hollows, and ſurrounded by a white lobed border.

SYN. Lichen exanthematicus. *Sm. Tr. of Linn. Soc. v.* 1. 81. *t.* 4. *f.* 1. *Achar. Prod.* 35. *Dickſ. Crypt. faſc.* 3. 14. *With. v.* 4. 22. *Hull.* 291.
L. volvatus. *Villars. Dauph. v.* 3. 998. *t.* 55.
Verrucaria clauſa. *Hoffm. Fl. Germ.* 177.

THIS curious little Lichen by its manner of excavating ſtones is cloſely allied to *L. immerſus*, *v.* 3. *t.* 193. M. Villars has publiſhed one by the name *volvatus*, which appears to accord preciſely with it, and we have Profeſſor Hoffman's authority for its being his *Verrucaria clauſa*.

Our name, which though poſterior to Hoffman's has been retained by Dr. Acharius, expreſſes the peculiar appearance by which this Lichen is at firſt ſight diſtinguiſhable, reſembling ſmall white puſtules breaking from a grey cruſt. The cruſt is thin, ſmooth and uniform, cloſely adhering to calcareous rocks, of a pale grey or ſlate-colour. Each ſhield is ſolitary, minute, concave, fleſh-coloured or waxy, with a border of its own ſubſtance and colour, and is ſunk in a little cavity, hollowed not only out of the cruſt, but out of the ſtone beneath, the margin of which cavity is ſurrounded, and in an early ſtate cloſed, by a thick inflexed lobed white border.——It appears to be a very rare ſpecies. The only Engliſh ſpecimens we have ſeen were found by the Rev. Mr. Harriman on the banks of the Tees, Durham. Mr. Dickſon has obſerved the ſame in Scotland.

Published by J. Sowerby London

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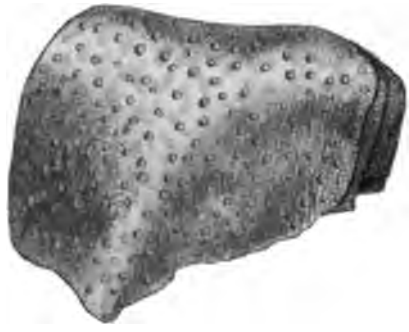
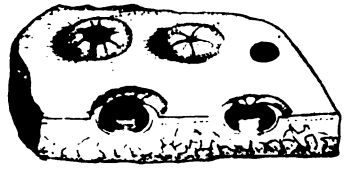
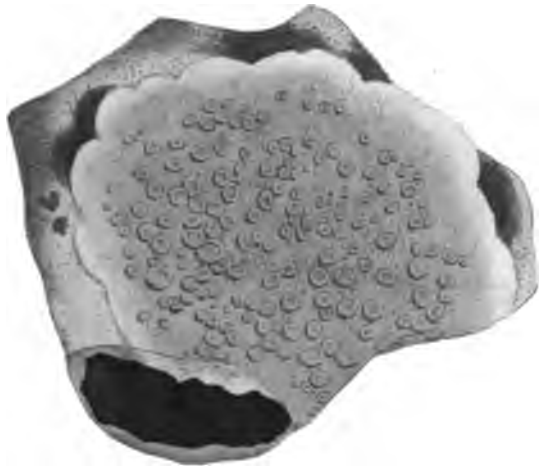




July 1 1815. Published by Jas Sowerby, London



March 1, 1831 Published by Jas. Sowerby, London.

2010

April 1 1809 Published by Jas Sowerby London

Sow. Lichen. Published by Jas. Sowerby London

✓

Map Lichen. Published by Jas. Sowerby, London.

LICHEN albellus.

Cream-coloured Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust leprous, thin, continued, cream-coloured, somewhat polished. Shields sessile, whitish-buff, uneven, with a thin, white, wavy border.

SYN. Lichen albellus. *Persoon in Ust. Ann. fasc.* 11. 18.

L. umbilicatus. *Ach. Prod.* 70.

Parmelia albella. *Ach. Meth.* 163.

NOT very uncommon on the smooth barks of young trees. It much resembles *L. rosellus*, *t.* 1651, except that the colour of the shields is much redder in *rosellus*, and their border, though differently coloured from their disk when young, of the same substance with it, as in *vernalis*, *t.* 845. We regret that this border is made too much like that of an Acharian *Parmelia* in our *t.* 1651.

The present is a real *Parmelia*. The crust forms roundish patches inseparable from the bark, of a yellowish white or cream-colour, with a degree of lucid polish, or a silvery gloss. Shields numerous, scattered, very neat and pretty, sessile; their disk uneven, concave or convex, pale buff with a slight mealy aspect, and some tinge of flesh-colour when examined with a glass. Their border is perfectly distinct from the disk, and of the substance of the crust, white, thin, even, at length wavy, and finally overtopped by the swelling disk.

2154.

Mary's unpublished by J. Hearsey Boston

Lond. 1815. Published by Sowerby, London

LICHEN polytropus.

Many-coloured Lichen.

CRYPTOGAMIA Algæ.

Gen. Char. Male, scattered warts. Female, smooth shields or tubercles, in which the seeds are imbedded.

Spec. Char. Crust tessellated, smooth, greenish sulphur-coloured and black. Shields numerous, convex, crowded, angular, yellowish flesh-coloured, turning to olive, dark purple and black.

Syn. Lichen polytropus. *Ehrh. Crypt.* 294. *Ach.* [illegible] 4. 22.
L. [illegible] 2. 186. *t.* 14. *f.* 2.
Lecidea [illegible] 72.
[illegible] *Hoffm. Pl. Lich.* v. 3. 11. *t.* 58. [illegible]

The first discoverer of this Lichen in Britain was the Rev. [illegible] who in 1795 favoured us with specimens [illegible] from the mountains of Breadalbane. In [illegible] the same abundant [illegible] Dumfriesshire. Mr. Robson [illegible] have since sent it from Durham [illegible] The gentleman last [illegible] the name of polytropus. The [illegible] authentic one [illegible]

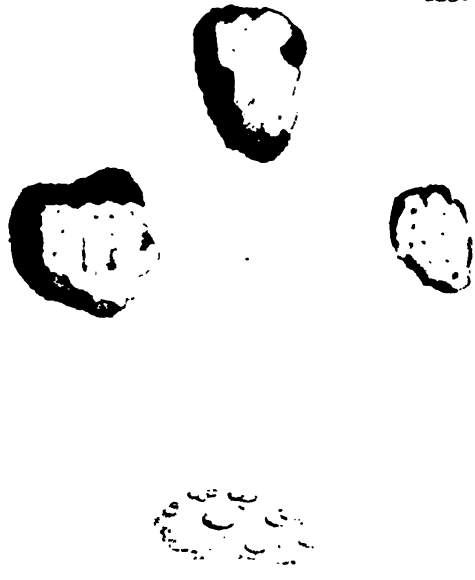
[illegible] It is [illegible] the crust; [illegible] greenish [illegible] the same [illegible]. They [illegible] By age [illegible] black, and [illegible]

[illegible] *L.* [illegible]

Vol. I. 1844. Published by Tyas Cornhill London.

✓

1550



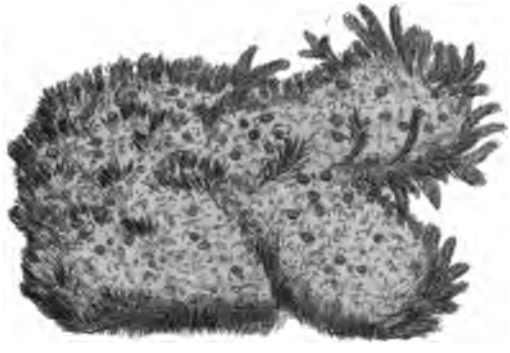
IV

1666.

Nov.r 1.1816. Published by Ja.s Sowerby, London.

✓

2373



Oct.r 1804 Published by J.d Sowerby London

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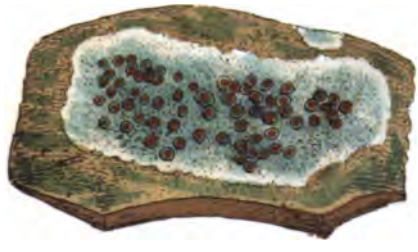
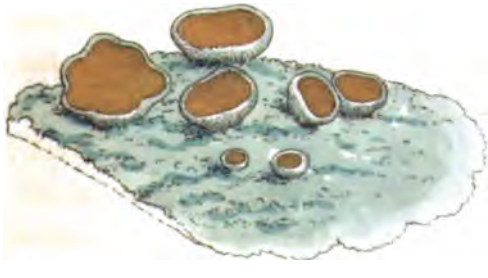




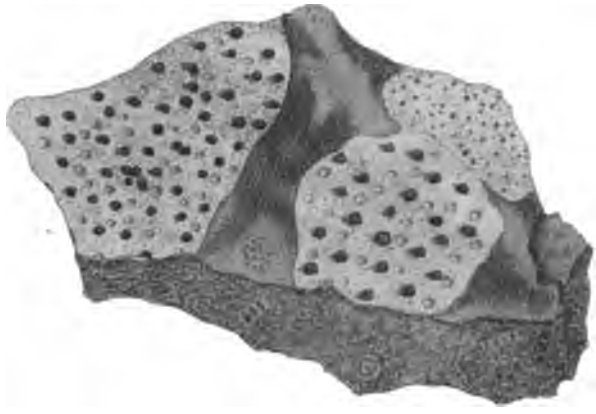
1792

Sept. 1. 1807. Published by Jas. Sowerby London.

1263

1804 Published by Jas. Sowerby, London.

March 1 1815 Published by Jas Sowerby London



Novr. 1 1801 Published by Jas. Sowerby London.

LICHEN rupestris.

Orange Rock Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust thin, dispersed, greenish grey. Shields sunk, flat, bordered; at length convex, smooth, deprived of their border, reddish orange-coloured.

SYN. Lichen rupestris. *Ach. Prod.* 43.
Lecidea rupestris. *Ach. Meth.* 70. *Winch. v.* 2. 39.
Verrucaria rufescens. *Hoffm. Pl. Lich. v.* 1. 80. *t.* 17. *f.* 1.

COMMUNICATED from walls at Beamish, Durham, by Mr. Winch, who assures us his specimen has been compared with some from Dr. Acharius. If the greenish or greyish interrupted and often evanescent crust, drawn in our plate, really belongs to the shields, which from Hoffmann's own specimen, as well as his and Acharius's description, we dare not deny, this species is abundantly distinct from *L. calvus*, *t.* 948, whose crust is white, continued, hard and firm; but we have specimens of the latter overrun with something exactly similar to Hoffmann's plant at least, and we scarcely know where to draw the line. Certainly, however, in the plant before us there is no trace of the proper crust of *calvus*. The shields when young are sessile or immersed, nearly flat, of a deep orange, with a border of the same colour, which disappears by age, and the disk becomes almost globular, exactly like the advanced state of *calvus*, *t.* 948, but of rather a more vivid hue; whereas the young shields of the latter are depressed, pitted, and irregular, with scarcely any proper border, and of a paler orange than in *rupestris*.

Scopoli's *rupestris* is by far too vague and comprehensive to be hazarded as a synonym, and the figure in *Fl. Dan. t.* 825, *f.* 2, has very little likeness to any thing with which we are acquainted.

Published by Jas. Sowerby London.

LICHEN erythrellus.

Orange Stone Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust lemon-coloured, thin, dispersed, in minute, angular, smooth fragments. Shields sessile, deep orange, with a lighter border; at length becoming nearly globose, and the border obliterated.

SYN. Lichen erythrellus. *Ach. Prod.* 43.

Parmelia erythrella. *Ach. Meth.* 174.

DETECTED by Mr. Hooker and Mr. Borrer on walls in Glen Ordy about Loch Tay, and elsewhere in the Highlands last summer. Their specimens, drawn in our plate, agree precisely with the authentic one sent by Dr. Acharius.

This is a minute species, but very distinct. Its original describer suggests its affinity to *L. salicinus*, *t.* 1305, but they surely cannot be confounded. The crust of this before us consists of very minute, dispersed, angular, smooth, lemon-coloured fragments, inseparable from the hard stone on which it grows, and quite unlike in nature from the continued, somewhat orbicular, crust of *t.* 1305. The diminutive shields, larger however than the portions of the crust, are scattered, sessile, of a deep reddish orange, with a thick, smooth, paler border. In process of time the disk is said by Dr. Acharius to become so convex that the border disappears. We have not seen the shields in this state.

1993

May 1 1819 Published by Jas. Sowerby London.

LICHEN citrinus.

Lemon-coloured Wall Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust leprous, powdery, indeterminate, bright lemon-coloured. Shields scattered, sessile, minute, orange-coloured, with a pale yellow, powdery border.

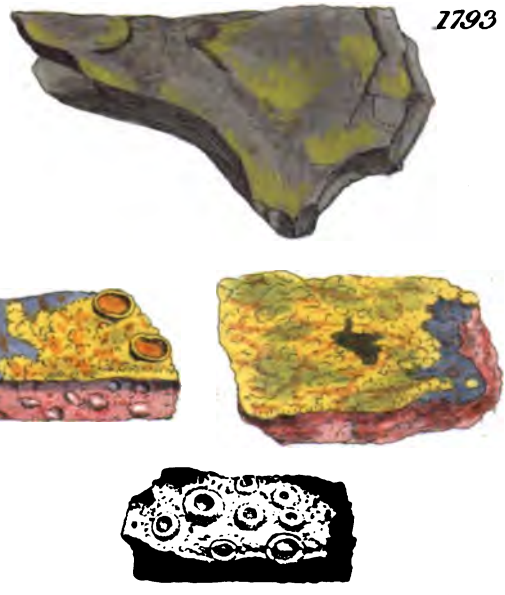
SYN. Lichen citrinus. *Ach. Prod.* 73.
L. candelarius. *Abbot.* 262?
Lichenoides. *Dill. Musc.* 136. *t.* 18. *f.* 18. B?
Parmelia citrina. *Ach. Meth.* 179.
Verrucaria citrina. *Hoffm. Fl. Germ. v.* 2. 198.

IT appears from the works of Acharius that he had never seen specimens of this plant, but adopted it from Hoffmann, who seems however, by his *Flora*, to have confounded it with *vitellinus*, *t.* 1792. Most botanists have done the same, and we are obliged to Mr. Turner for first explaining the species to us, since which we have found no difficulty in distinguishing it at any time.

This species is very common, and, in the wet months of the early spring, very conspicuous and brilliant, on brick or flint walls in Norfolk, and probably other places. Mr. Hailstone has sent it on wood, from Yorkshire. The crust is moderately thick, friable, powdery, cracked when dry, of no determinate figure, and often irregularly dispersed, of a fine lemon-colour. Shields not very copious, scattered, minute, sessile and imbedded in the powder of the crust; their disk flat, deep yellow or palish orange-coloured; their border thick, elevated, powdery and paler like the crust.

We are convinced of this being distinct from our *Lepraria flava*, *t.* 1350, as well as from *L. vitellinus*, *t.* 1792, the texture of the crust being very different from both. Concerning another suggestion of the learned Acharius, whether this species may ever become his *L. candelarius*, *t.* 1794, we speak with more diffidence, but we think it very improbable, that being in every stage truly leafy or frondose, its fronds bearing the shields.

1793



Sept. 1 1807. Published by Jas. Sowerby London.

LICHEN salicinus.

Saffron-coloured Willow Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust granulated, whitish lemon-coloured. Shields sessile, rather convex, orange-coloured, with a yellow waved border.

SYN. Lichen salicinus. *Schrad. Spicil.* 82. *Achar. Prod.* 43.
Lecidea aurantiaca. *Achar. Meth.* 69.
Patellaria salicina. *Hoffm. Pl. Lich. t.* 61. *f.* 3—9.

OUR oldest specimens of this Lichen were gathered on trees about Edinburgh in 1782. Mr. Sowerby finds it abundantly on willows at Kennington; Mr. Borrer on ash trees in Sussex; and Mr. Turner, to whom we are obliged for specimens, on the same kind of tree at Haddiscoe, Suffolk. Indeed we believe it to be not very rare.

The crust is thin, granulated, and cracked, easily discernible by its colour, which looks as if it had, though originally white or greyish, been stained with lemon peel, or a weak tincture of saffron. The whole plant when moist smells strongly of saffron, even after it has long been kept in a herbarium; by which it is easily recognized. The shields are pretty numerous, mostly small, sessile, with a deep orange-coloured flattish disk, at length a little convex, and a thickish, tolerably even, not waved, border of a lemon hue.

All the above synonyms we have determined by original specimens from the authors themselves. This Lichen has been taken for the *aurantiacus* of Lightfoot, whose description, however, much better agrees with *ferrugineus* of Hudson. It does not seem exactly the *aurantiacus* of Ehrhart, *Crypt.* 28. It may be *flavo-rubescens* of Hudson, but that cannot easily be determined. In this confusion we have preferred the name of one faithful writer at least, though we should rather have called it *crocinus*.

1805

May 1. 1804 Published by Jas. Sowerby, London

126.

LICHEN fuſco-luteus.

Brownifh-yellow Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, ſcattered warts.

Female, ſmooth ſhields or tubercles, in which the ſeeds are imbedded.

SPEC. CHAR. Cruſt thin, continued, even, very white and ſmooth. Shields elevated, flat, dull-yellow, mealy, with a border of the ſame colour.

SYN. Lichen fuſco-luteus. *Dickſ. Crypt. faſc.* 2. 18. *t.* 6. *f.* 2. *H. Sicc. faſc.* 4. 25. *With. v.* 4. 24. *Hull.* 291. *Achar. Prod.* 72.

WE firſt became acquainted with this Lichen in the year 1782, by means of ſpecimens from the Rev. Mr. Stuart, who gathered them on the Highland mountains of Breadalbane. Mr. Dickſon has alſo found it on Ben Lawers and other mountains. Foreign botaniſts ſeem quite unacquainted with it.

The cruſt ſpreads widely over decayed moſſes, ſprigs of Heath, and other ſmall plants, cloſely enveloping them ſo as to aſſume a branched or ſhrubby appearance (ſee Mr. Dickſon's figure), which happens in like manner to *L. upſalienſis* and a few others. This cruſt when ſeparately examined is found to be very thin, even and delicate, almoſt membranous, very white and ſomewhat poliſhed. The ſhields grow either cluſtered or ſcattered. When young they are of the ſize of a moderate pin's head, roundiſh, with a thick inflexed border, all over of a dull yellow, being clothed with ochrey powder which is eaſily rubbed off. When full grown they are about 2 lines in diameter, elevated on a ſhort thick ſtalk, their diſk flat, their margin waved and narrower, though always viſible enough, their colour ſtill more dull and browniſh; indeed the diſk when deprived of its powdery covering appears quite brown or ſnuff-coloured.

Tab. 7

J. Phillips del. et sculp. Tab. 7.

127.

LICHEN atro-flavus.

Black and yellow Stone Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust indeterminate, membranous, thin, somewhat granulated, black. Shields numerous, small, flattish, full-yellow, with an entire, elevated, somewhat paler border.

SYN. Lecidea atro-flava. *Turn. Tr. of L. Soc. v.* 9. 142. *t.* 11. *f.* 2.

THIS elegant little Lichen remained undescribed till Mr. Turner made it known in one of his excellent papers published in the 9th vol. of the Linnæan Society's Transactions. It was first noticed by Mr. Borrer on the downs of Sussex, growing on loose exposed flints, which when white serve greatly to set off the crust. The Rev. G. R. Leathes observed the same near Bury.

Crust always black and unpolished, very thin, adhering closely to the stone, at first forming roundish blotches, which, according to Mr. Turner, have sometimes a fine fibrous edge, but usually splitting into scattered indeterminate fragments, and becoming granulated by age. The shields are numerous, small, of a full yellow or orange hue, flat, somewhat concave when young; their border thick, elevated, smooth, entire, rather paler than the disk. These shields are so conspicuous that we believe the plant would not have been so long undescribed, had the crust been thought to belong to them.

2009

April 1 1809 Published by Jas Sowerby London

LICHEN ferrugineus.

Rusty-shielded Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust cracked, rugged, greyish white. Shields rusty orange, at length convex, with a waved notched margin of the same colour.

SYN. Lichen ferrugineus. *Huds.* 526.
L. aurantiacus. *Lightf.* 810.
L. crenularius. *With. v.* 4. 22. *t.* 31. *f.* 5. *Hull.* 291.
L. cæsio-rufus. *Schrad. Spicil.* 80. *Ach. Prod.* 45.
Patellaria cinereo-fusca. *Hoffm. Pl. Lich. t.* 12. *f.* 1.
P. ferruginea. *Hoffm. Pl. Lich. t.* 35. *f.* 1.
Verrucaria ferruginea. *Hoffm. Fl. Germ. v.* 2. 177.
Lecidea cæsio-rufa. *Ach. Meth.* 71.

BRITISH authors have been extremely confused about this Lichen, nor have foreigners well understood it. We are persuaded that the above synonyms are correct, and we think Mr. Hudson's original name by far preferable to the rest. His quotations of Linnæus and of Dillenius are indeed altogether erroneous. We have already alluded to the species before us at *t.* 845 and *t.* 1040 of this work.

L. ferrugineus grows on rocks and stones, as well as on the bark of trees, in various places. Its crust varies in thickness, but is more or less cracked and rugged, never mealy, of a greyish white. Sometimes it assumes a kind of lead-colour, and has a blackish edge. The shields are readily known by their rusty orange hue, always uniform in the same specimen, though specimens on sand-stones often have them of a dark brown orange. Their disks are flat when young, mostly convex when old. The margin is elevated, but not thick, soon becoming elegantly waved and crenate, of the same colour as the disk, or slightly brighter. The shields, being numerous, often crowd one another into an angular figure.

Sept. 1850. Published by Ja. Smith, London.

129.

LICHEN cæſio-rufus.

Grey and red Lichen.

CRYPTOGAMIA Alga.

GEN. CHAR. Male, ſcattered warts.

Female, ſmooth ſhields or tubercles, in which the ſeeds are imbedded.

SPEC. CHAR. Cruſt granulated, lobed, pale grey. Shields tawny red, flattiſh, with a thick, white, undulated border.

SYN. Lichen cæſio-rufus. *Schrad. Spicil.* 80.

L. craſpedius. *Achar. Prodr.* 45.

L. arenarius. *Dickſ. Crypt. faſc.* 4. 23. *t.* 12. *f.* 2.

Verrucaria cæſio-rufa. *Hoffm. Fl. Germ. v.* 2. 178.

THE firſt ſpecimen of this Lichen ever noticed in England I gathered in 1783, on a wall at Strumpſhaw, the moſt elevated ſpot in Norfolk. It has ſince been found at Wiſbeach by Mr. W. Skrimſhire, and ſent to Mr. Sowerby. It grows on bricks, ſand-ſtone, or lime-ſtone, in roundiſh patches of a whitiſh grey, granulated, rather thin cruſt, whoſe edge is paler, ſmoother, dilated, crenate, and ſomewhat lobed. The ſhields are irregularly ſcattered, ſmall, ſeſſile, flattiſh; their diſk of a deep orange or tawny red, occaſionally more or leſs vivid, by age becoming almoſt brown; their border is conſpicuous, white, crenate and waved. Within the proper border the thickened edge of the diſk, ſomewhat paler than the central part, is remarkable, ſeeming, in young ſhields, to ſtain the white part with orange.

We are aſſured of the correctneſs of the above ſynonyms from the beſt authority, and it appears therefore that Dr. Acharius miſquotes *L. cæſio-rufus* of Schrader as a ſynonym to his own, which we know from his ſpecimens to be the *ferrugineus* of Hudſon. We retain for our plant the moſt original, expreſſive, and certain name. We ſhould not heſitate to quote *Patellaria arenaria* of Hoffmann as the ſame, were it not expreſsly mentioned in his *Fl. Germ.* as diſtinct.

July 1 1802 Published by Ja.s Sowerby Lon.

LICHEN Hæmatomma.

Bloody-specked Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts. Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crustaceous, white, mealy, with a fibrous border. Shields imbedded, scarlet, concave; when old, convex; their margin thick, white, elevated, mealy.

SYN. Lichen Hæmatomma. *Ehrh. Beiträge fasc.* 2. 157. *Gmel. Syst. Nat. Linn. v.* 2. 1361.

Verrucaria Hæmatomma. *Hoffm. Pl. Lich. t.* 11. *f.* 1.

FOUND, for the first time in this island, by Robert Stone and D. Turner, Esqrs. on brick walls, at Gorleston, near Yarmouth, in considerable plenty.

The crust is of a greyish white, mealy, or minutely granulated, greenish within, spreading to a considerable extent, scarcely half a line in thickness, its border when young as white as snow, and composed of very fine parallel fibres. The shields are minute, imbedded in the crust, of a paleish vermilion hue, concave, enclosed in a very prominent thick overhanging margin, which is of the same colour and mealy substance as the crust. In process of time they become more elevated, and of a darker hue.

At first sight this *Lichen* appears like a powdery *Byssus*, through whose substance minute points of the brick on which it grows, had, by accidental attrition, become visible; but those red points are on examination found to be beautiful little shields. We think there can be no doubt of its being the plant to which we have referred in Prof. Hoffman's exquisite work, though the crust is there delineated more cracked and browner, with shields less regular, and more dark coloured than ours, being farther advanced in age. The description, like all of this author, is accurate and characteristic.